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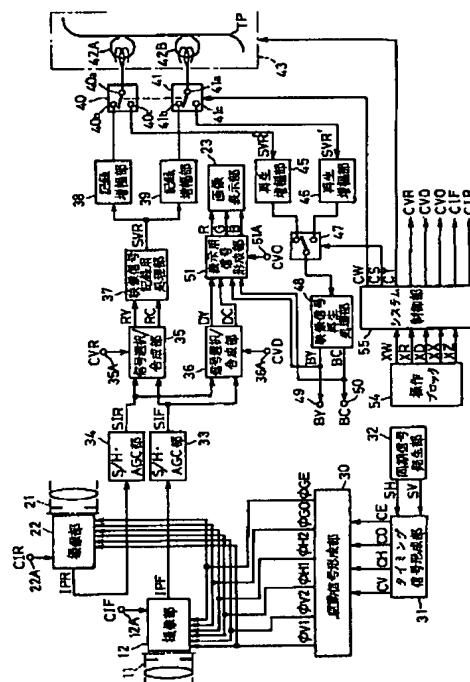
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(54)【発明の名称】 画像表示部付撮像装置

(57)【要約】

【目的】前面側及び背面側についての配置転換操作が不要とされるもとで、前方側撮像と自分側撮像を行なうことができ、しかも、前方側撮像状態から自分側撮像状態への切換え及びその逆の切換えが極めて迅速に行われるものとなす。

【構成】前面側の撮像対象についての撮像出力信号が得られる撮像部12と、背面側の撮像対象についての撮像出力信号が得られる撮像部22と、撮像部12から得られる撮像出力信号及び撮像部22から得られる撮像出力信号についての選択もしくは合成を行って映像信号を得る信号選択／合成部35, 36と、信号選択／合成部35, 36における信号選択動作もしくは信号合成動作についての制御を行うシステム制御部55と、背面側に配されて信号選択／合成部36から得られる映像信号に基づく画像の再生表示を行う画像表示部23とを備える。



【特許請求の範囲】

【請求項 1】前面側の撮像対象についての撮像出力信号が得られる第 1 の撮像部と、背面側の撮像対象についての撮像出力信号が得られる第 2 の撮像部と、上記第 1 の撮像部から得られる撮像出力信号及び上記第 2 の撮像部から得られる撮像出力信号についての選択もしくは合成を行って映像信号を得る映像信号形成部と、該映像信号形成部における信号選択動作もしくは信号合成動作についての制御を行う動作制御部と、背面側に配されて上記映像信号形成部から得られる映像信号に基づく画像の再生表示を行う画像表示部と、を備えて構成される画像表示部付撮像装置。

【請求項 2】第 1 の撮像部及び第 2 の撮像部が共通の駆動部によって駆動されることを特徴とする請求項 1 記載の画像表示部付撮像装置。

【請求項 3】第 1 の撮像部及び第 2 の撮像部が夫々個別に設けられた駆動部によって駆動されることを特徴とする請求項 1 記載の画像表示部付撮像装置。

【請求項 4】映像信号形成部から得られる映像信号を記録媒体に記録する映像信号記録部を備えることを特徴とする請求項 1 記載の画像表示部付撮像装置。

【請求項 5】映像信号形成部が、第 1 の撮像部から得られる撮像出力信号及び第 2 の撮像部から得られる撮像出力信号についての選択もしくは合成を行って形成した映像信号を映像信号記録部に供給する第 1 の信号選択／合成部と、上記第 1 の撮像部から得られる撮像出力信号及び上記第 2 の撮像部から得られる撮像出力信号についての選択もしくは合成を行って形成した映像信号を画像表示部に供給する第 2 の信号選択／合成部とを含んで構成されることを特徴とする請求項 4 記載の画像表示部付撮像装置。

【請求項 6】記録媒体に記録された映像信号を該記録媒体から読み取って再生する映像信号再生部を備えることを特徴とする請求項 4 または 5 記載の画像表示部付撮像装置。

【請求項 7】画像表示部が、動作制御部による動作制御を受け、映像信号形成部から得られる映像信号と映像信号再生部により再生された映像信号とが供給され、第 1 の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像の表示、第 2 の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像の表示、上記第 1 の撮像部から得られる撮像出力信号に基づく映像信号と上記第 2 の撮像部から得られる撮像出力信号に基づく映像信号とが合成されたものとして得られる映像信号があらわす画像の表示、及び、上記第 1 の撮像部もしくは第 2 の撮像部から得られる撮像出力信号に基づく映像信号と上記映像信号再生部により再生された映像信号とが合成されたものとして得られる映像信号があらわす画像の表示を選択的に行うものとされることを特徴とする請

求項 6 記載の画像表示部付撮像装置。

【請求項 8】画像表示部が、映像信号再生部により再生された映像信号があらわす画像の表示をも選択的に行うものとされることを特徴とする請求項 7 記載の画像表示部付撮像装置。

【請求項 9】映像信号形成部及び動作制御部を内蔵するとともに画像表示部が設けられた本体部を備え、第 1 の撮像部が上記本体部に固着され、第 2 の撮像部が上記本体部に対して着脱可能とされるとともに上記映像信号形成部に接続コードを通じて電気的に接続されることを特徴とする請求項 1 ～ 8 のいずれかに記載の画像表示部付撮像装置。

【発明の詳細な説明】**【0001】**

【産業上の利用分野】本発明は、撮像対象についての撮像出力信号が得られる撮像部と、撮像部からの撮像出力信号に基づく映像信号があらわす画像を再生表示する画像表示部と、を備えたものとされる画像表示部付撮像装置に関する。

【0002】

【従来の技術】静的あるいは動的撮像対象についての撮像動作を行って撮像出力信号を得る撮像部、及び、撮像部からの撮像出力信号に基づいて映像信号を得る映像信号形成部を備え、さらに、映像信号形成部から得られる映像信号があらわす画像を再生表示する画像表示部が設けられた画像表示部付撮像装置が、比較的小型なものとされた携帯型撮像装置として実用に供されている。また、斯かる画像表示部付撮像装置は、映像信号形成部により撮像部からの撮像出力信号に基づいて得られる映像信号を、例えば、比較的小なる寸法を有するテープカセットに収容された磁気テープとされる記録媒体に記録する動作、及び、映像信号が記録された記録媒体から映像信号を再生する動作を行う映像信号記録再生部をも備えたものとされることが多い。

【0003】このような画像表示部付撮像装置にあっては、通常、撮像部が、例えば、光電変換を行う多数の画素、及び、各画素で得られた信号電荷を転送する電荷結合素子（チャージ・カップルド・ディバイス：CCD）等による電荷転送部が配されて成る撮像面形成部を有した固体撮像素子が用いられて構成され、その撮像面形成部とその前方に位置せしめられるレンズ、絞り、フィルタ等を含んで成る光学系とが、前面側に前方に向けられて配されるとともに、画像表示部が、背面側に後方に向けられ、従って、画像表示部により再生表示される画像が背後側から観られるようにされて配される。画像表示部は、例えば、液晶が用いられて成る平面型のものとされる。

【0004】上述の如くにして、撮像部を構成する固体撮像素子の撮像面形成部と光学系とが前面側に前方に向けられて配され、また、画像表示部が背面側に後方に向

けられて配された画像表示部付撮像装置が実際に使用されるときには、通常、使用者が画像表示部付撮像装置をその前面側を前方の撮像対象に向けて構えたもとでの撮像部による撮像対象についての撮像、即ち、前方側撮像が行われるようになります。斯かる前方側撮像が行われる際には、撮像部から前方の撮像対象に関する撮像出力信号が得られるとともに、映像信号形成部からその撮像出力信号に基づく映像信号が得られます。そして、画像表示部において映像信号形成部からの映像信号があらわす画像、即ち、前方の撮像対象の像が再生表示され、さらには、必要に応じて、映像信号記録再生部において映像信号形成部からの映像信号についての記録媒体への記録が行われます。

【0005】また、このような通常の使い方に加えて、使用者が画像表示部付撮像装置をその前面側を後方の自らに向けて構えたもとでの撮像部による自分を撮像対象とした撮像、即ち、自分側撮像が行われるようになります。そして、自分側撮像が行われる場合にあっても、撮像部から撮像対象である使用者及びその周辺に関する撮像出力信号が得られるとともに、映像信号形成部からその撮像出力信号に基づく映像信号が得られ、画像表示部において映像信号形成部からの映像信号があらわす画像、即ち、使用者及びその周辺の像が再生表示され、さらに、必要に応じて、映像信号記録再生部において映像信号形成部からの映像信号についての記録媒体への記録が行われます。

【0006】

【発明が解決しようとする課題】上述の如くに、撮像部を構成する固体撮像素子の撮像面形成部と光学系とが前面側に前方に向けられて配され、また、画像表示部が背面側に後方に向けられて配された画像表示部付撮像装置が実際の使用に供されるにあたり、自分側撮像が行われる場合には、その都度、装置の使用者が、通常においては前方側撮像が行われる状態にあって前方の撮像対象に向かっている装置の前面側を、反転させて後方の自分側に向ける取扱いを行い、さらに、自分側撮像が終了したとき、自分の方に向けられた装置の前面側を再び前方に向ける取扱いを行わなければならぬことになります。従って、前方側撮像が行われる状態から自分側撮像が行われる状態への切換え、さらには、自分側撮像が行われる状態から前方側撮像が行われる状態への切換えが、使用者にとって煩わしい操作を要求し、しかも、迅速に行われることが困難なこととされてしまう。

【0007】また、それゆえ、前方側撮像及び自分側撮像が連続して行われる場合、前方側撮像により得られる映像信号と自分側撮像により得られる映像信号とが滑らかに繋がらず、不自然さが感じられるものとなってしまう虞がある。さらに、使用者による操作の仕方によっては、前方側撮像が行われる状態から自分側撮像が行われる状態への切換え、あるいは、自分側撮像が行われる状

態から前方側撮像が行われる状態への切換えがなされる期間中にも、映像信号記録再生部が記録動作状態におかれ、そのため、磁気テープ等の記録媒体が無駄に消費されてしまうことになる虞もある。

【0008】斯かる点に鑑み、本発明は、背面側に後方に向けられて配された画像表示部を備えたものとされるもとで、使用者が、前方の撮像対象に向けられた装置の前面側を反転させて後方の自分側に向ける取扱い、あるいは、自分の方に向けられた装置の前面側を反転させて前方の撮像対象に向ける取扱いを行うことなく、前方側撮像と自分側撮像とを行うことができ、しかも、前方側撮像が行われる状態から自分側撮像が行われる状態への切換え、さらには、自分側撮像が行われる状態から前方側撮像が行われる状態への切換えが極めて迅速に行われることになる画像表示部付撮像装置を提供することを目的とする。

【0009】

【課題を解決するための手段】上述の目的を達成すべく、本発明に係る画像表示部付撮像装置は、前面側の撮像対象についての撮像出力信号が得られる第1の撮像部と、背面側の撮像対象についての撮像出力信号が得られる第2の撮像部とを備え、さらに、第1の撮像部から得られる撮像出力信号及び第2の撮像部から得られる撮像出力信号についての選択もしくは合成を行って映像信号を得る映像信号形成部と、映像信号形成部における信号選択動作もしくは信号合成動作についての制御を行う動作制御部と、背面側に配されて映像信号形成部から得られる映像信号に基づく画像の再生表示を行う画像表示部とを有して構成される。

【0010】

【作用】このように構成される本発明に係る画像表示部付撮像装置にあっては、第1の撮像部が、例えば、それに付随する光学系が前面側に前方に向けられるものとされて配されるとともに、第2の撮像部が、例えば、それに付隨する光学系が背面側に後方に向けられるものとされて配され、しかも、映像信号形成部により、第1の撮像部及び第2の撮像部の夫々からの撮像出力信号が選択もしくは合成されて映像信号が形成されるので、前面側及び背面側についての配置転換等が要されることなく、第1の撮像部から前面側の撮像対象についての撮像出力信号が得られて、その撮像出力信号に基づく映像信号が映像信号形成部から得られる状態、及び、第2の撮像部から背面側の撮像対象についての撮像出力信号が得られて、その撮像出力信号に基づく映像信号が映像信号形成部から得られる状態が、動作制御部による制御によって選択される。

【0011】従って、使用者が、前方の撮像対象に向けられた装置の前面側を反転させて後方の自分側に向ける取扱い、あるいは、自分の方に向けられた装置の前面側を反転させて前方の撮像対象に向ける取扱いを行うこと

なく、前方側撮像と自分側撮像とを行うことができ、しかも、前方側撮像が行われる状態から自分側撮像が行われる状態への切換え、さらには、自分側撮像が行われる状態から前方側撮像が行われる状態への切換えが極めて迅速に行われることになる。

【0012】また、第1の撮像部から前面側の撮像対象についての撮像出力信号が得られるとともに第2の撮像部から背面側の撮像対象についての撮像出力信号が得られて、両撮像出力信号に基づく映像信号が映像信号形成部から得られる状態も、動作制御部による制御によって選択される。それにより、使用者が、前方側撮像と自分側撮像とを同時に行うことができることになる。

【0013】そして、画像表示部においては、第1の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像、第2の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像、及び、第1の撮像部から得られる撮像出力信号と第2の撮像部から得られる撮像出力信号との両者に基づく映像信号があらわす画像の再生表示が選択的に行われ、従って、前方側撮像がなされて得られる画像、自分側撮像がなされて得られる画像、及び、前方側撮像と自分側撮像とが同時になされて得られる画像が選択的に表示されることになる。

【0014】

【実施例】図2及び図3は、本発明に係る画像表示部付撮像装置の一例を成す装置の外観をあらわしており、この本発明に係る画像表示部付撮像装置の一例を成す装置は、それに備えられた撮像部からの撮像出力信号に基づいて得られる映像信号を、比較的小なる寸法を有するテープカセットに収容された磁気テープを記録媒体として記録する動作、及び、映像信号が記録された記録媒体から映像信号を再生する動作を行う映像信号記録再生部をも備えたものとされている。そして、図2においては、本発明に係る画像表示付撮像装置の一例の前面側が示され、また、図3においては、本発明に係る画像表示部付撮像装置の一例の背面側が示されている。

【0015】図2に示される装置の前面側には、レンズ、絞り、フィルタ等を含んで成る光学系11が、前方に向けられて配されており、光学系11の直後には撮像部12が配されている。撮像部12は、例えば、光電変換を行う多数の画素及び各画素で得られた信号電荷を転送するCCD等による電荷転送部が配されて成る撮像面形成部を有した固体撮像素子が用いられて構成され、その撮像面形成部が、前方に向かれて、光学系11を通じて形成される前面側の撮像対象の像が投影されるものとなされている。そして、光学系11及び撮像部12は、前面側撮像手段を形成している。

【0016】光学系11の近傍には、光学ファインダの前端部13Fが外部に臨んでいる。光学ファインダは、装置をその前面側から背面側へと貫通して、その後端部が装置の背面側において外部に臨むものとされており、

装置の使用者により後端部側から覗視される。即ち、装置は、通常、その背面側が使用者に対向せしめられる状態とされて使用される。

【0017】また、光学系11及び光学ファインダの前端部13Fの斜め下方には、磁気テープを収容した小型なテープカセットを装置内に装着する際、あるいは、装置内から離脱させる際に開閉せしめられるカセット着脱用開閉部14が設けられている。さらに、カセット着脱用開閉部14の上方には、各種の操作部15A、15B、15C等が配されており、これらの操作部15A、15B、15C等は、例えば、装置の使用者が、装置全体を片手で保持したものとで容易に操作することができるものとされている。

【0018】一方、図3に示される装置の背面側には、光学系11と同様にレンズ、絞り、フィルタ等を含んで成る光学系21が、後方に向けられて配されており、光学系21の直後には撮像部22が配されている。撮像部22も、例えば、光電変換を行う多数の画素及び各画素で得られた信号電荷を転送するCCD等による電荷転送部が配されて成る撮像面形成部を有した固体撮像素子が用いられて構成され、その撮像面形成部が、後方に向けられて、光学系21を通じて形成される背面側の撮像対象、即ち、装置の使用者を含む撮像対象の像が投影されるものとなされている。そして、光学系21及び撮像部22は、背面側撮像手段、換言すれば、自分側撮像手段を形成している。

【0019】光学系21の斜め上方には、その前端部13Fが装置の背面側において外部に臨むものとされた光学ファインダの後端部13Rが外部に臨んでいる。光学ファインダの後端部13Rの周囲部分は、装置の使用者が後端部13R側からの覗視を容易に行えるようになるとされている。

【0020】また、光学系21の下方には、画像表示部23が後方に向けられて配されている。この画像表示部23は、例えば、液晶が用いられて構成された平面型のものとされており、前面側撮像手段を形成する撮像部12から得られる撮像出力信号に基づく映像信号があらわす画像、背面側撮像手段を形成する撮像部22から得られる撮像出力信号に基づく映像信号があらわす画像、前面側撮像手段を形成する撮像部12から得られる撮像出力信号と背面側撮像手段を形成する撮像部22から得られる撮像出力信号との両者に基づく映像信号があらわす画像等を選択的に再生表示する。

【0021】さらに、光学系21の側方には、操作部15Dが配されており、この操作部15Dも、例えば、装置の使用者が、装置全体を片手で保持したものとで容易に操作するものとされている。

【0022】図1は、図2及び図3において外観が示された本発明に係る画像表示部付撮像装置の一例を成す装置の要部の構成例を示す。図1の構成例においては、光

光学系11を通じて形成される前面側の撮像対象の像が投影される撮像面形成部を有した固体撮像素子が用いられて構成される撮像部12、及び、光学系21を通じて形成される背面側の撮像対象の像が投影される撮像面形成部を有した固体撮像素子が用いられて構成される撮像部22の夫々に、駆動信号形成部30から共通の駆動信号が供給される。

【0023】撮像部12を構成する固体撮像素子及び撮像部22を構成する固体撮像素子の各々は、例えば、インターライン転送型のものとされ、その撮像面形成部に、駆動信号形成部30からの駆動信号が供給される。駆動信号形成部30からの駆動信号は、読出ゲート駆動信号 ϕG_O 及び ϕG_E 、2相の垂直転送信号 ϕV_1 及び ϕV_2 、及び、2相の水平転送信号 ϕH_1 及び ϕH_2 を含むものとされる。

【0024】駆動信号形成部30は、タイミング信号形成部31からの垂直方向クロック信号C_V、水平方向クロック信号C_H、及び、読出指令信号C_O及びC_Eが供給され、読出ゲート駆動信号 ϕG_O 及び ϕG_E を夫々読出指令信号C_O及びC_Eに応じて形成し、また、2相の垂直転送信号 ϕV_1 及び ϕV_2 を垂直方向クロック信号C_Vに基づいて形成するとともに、2相の水平転送信号 ϕH_1 及び ϕH_2 を水平方向クロック信号C_Hに基づいて形成する。そして、駆動信号形成部30は、読出ゲート駆動信号 ϕG_O 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 を読出指令信号C_Oに応じて、また、読出ゲート駆動信号 ϕG_E 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 を読出指令信号C_Eに応じて、夫々、撮像部12を構成する固体撮像素子及び撮像部22を構成する固体撮像素子の各々の撮像面形成部に供給する。

【0025】撮像部12においては、制御端子12Aを通じて供給される制御信号C_I_Fに従って動作状態にかかるとき、それを構成する固体撮像素子の撮像面形成部から、読出ゲート駆動信号 ϕG_O 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 に応じて、映像信号の各奇数フィールド期間分の撮像出力信号I_P_Fが得られるとともに、読出ゲート駆動信号 ϕG_E 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 に応じて、映像信号の各偶数フィールド期間分の撮像出力信号I_P_Fが得られる。また、同様に、撮像部22においては、制御端子22Aを通じて供給される制御信号C_I_Rに従って動作状態にかかるとき、それを構成する固体撮像素子の撮像面形成部から、読出ゲート駆動信号 ϕG_O 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 に応じて、映像信号の各奇数フィールド期間分の撮像出力信号I_P_Fが得られるとともに、読出ゲート駆動信号 ϕG_E 、垂直転送信号 ϕV_1 及び ϕV_2 、及び、水平転送信号 ϕH_1 及び ϕH_2 に応じて、映像信号の各偶数フィー

ルド期間分の撮像出力信号I_P_Rが得られる。

【0026】タイミング信号形成部31には、同期信号発生部32からの垂直同期信号S_V及び水平同期信号S_Hが供給される。そして、タイミング信号形成部31は、垂直方向クロック信号C_Vを垂直同期信号S_Vに基づいて形成し、また、水平方向クロック信号C_Hを水平同期信号S_Hに基づいて形成するとともに、読出指令信号C_O及びC_Eを、夫々、映像信号の奇数フィールド期間及び映像信号の偶数フィールド期間に対応するものとして形成し、それらを駆動信号形成部30に供給する。

【0027】撮像部12において得られる撮像出力信号I_P_Fは、サンプリング・ホールド及び自動利得制御部(S/H・AGC部)33に供給される。S/H・AGC部33においては、撮像出力信号I_P_Fに対する所定の短周期毎のレベル・サンプリング及びサンプル・レベルの保持と保持されたサンプル・レベルについてのレベル制御とが行われて、サンプリング・ホールド出力信号S_I_Fが得られ、それが信号選択／合成部35及び信号選択／合成部36の夫々に供給される。

【0028】同様に、撮像部22において得られる撮像出力信号I_P_Rは、S/H・AGC部34に供給される。S/H・AGC部34においては、撮像出力信号I_P_Rに対する所定の短周期毎のレベル・サンプリング及びサンプル・レベルの保持と保持されたサンプル・レベルについてのレベル制御とが行われて、サンプリング・ホールド出力信号S_I_Rが得られ、それが信号選択／合成部35及び信号選択／合成部36の夫々に供給される。

【0029】信号選択／合成部35においては、制御端子35Aを通じて供給される制御信号C_V_Rに従い、S/H・AGC部33からのサンプリング・ホールド出力信号S_I_Fが選択されて、サンプリング・ホールド出力信号S_I_Fに基づく映像信号を形成する輝度信号R_Y及び搬送色信号R_Cが得られる状態、S/H・AGC部34からのサンプリング・ホールド出力信号S_I_Rが選択されて、サンプリング・ホールド出力信号S_I_Rに基づく映像信号を形成する輝度信号R_Y及び搬送色信号R_Cが得られる状態、及び、サンプリング・ホールド出力信号S_I_Fに基づく映像信号とサンプリング・ホールド出力信号S_I_Rに基づく映像信号とが合成されて成る合成映像信号を形成する輝度信号R_Y及び搬送色信号R_Cが得られる状態が、選択的にとられる。従って、信号選択／合成部35は、撮像部12から得られる撮像出力信号I_P_F及び撮像部22から得られる撮像出力信号I_P_Rについての選択もしくは合成を行って映像信号を得る映像信号形成部を形成していることになる。

【0030】そして、信号選択／合成部35から得られる輝度信号R_Y及び搬送色信号R_Cは、映像信号記録用処理部37に供給される。映像信号記録用処理部37においては、輝度信号R_Yに対しての周波数変調処理等を

含む磁気テープへの記録のための各種の処理、及び、搬送色信号R Cに対しての周波数変換処理等を含む磁気テープへの記録のための各種の処理がなされるとともに、記録のための処理が施された輝度信号R Yと記録のための処理が施された搬送色信号R Cとが合成されて、記録用映像信号S V Rが形成される。

【0031】記録用映像信号S V Rは、記録増幅部3 8を経て記録／再生選択スイッチ4 0における選択接点4 0 bに供給されるとともに、記録増幅部3 9を経て記録／再生選択スイッチ4 1における選択接点4 1 bに供給される。記録／再生選択スイッチ4 0にあっては、可動接点4 0 aが選択接点4 0 bに接続される状態がとられて、記録増幅部3 8を経た記録用映像信号S V Rを、一対の回転磁気ヘッド4 2 A及び4 2 Bのうちの回転磁気ヘッド4 2 Aに供給する状態がとられ、また、記録／再生選択スイッチ4 1にあっては、可動接点4 1 aが選択接点4 1 bに接続される状態がとられて、記録増幅部3 9を経た記録用映像信号S V Rを、一対の回転磁気ヘッド4 2 A及び4 2 Bのうちの回転磁気ヘッド4 2 Bに供給する状態がとられる。

【0032】一対の回転磁気ヘッド4 2 A及び4 2 Bは、記録媒体であるテープカセットに収容された磁気テープT Pに対する駆動系と共に、記録再生機構部4 3を構成している。そして、記録再生機構部4 3が動作状態におかれるとで、一対の回転磁気ヘッド4 2 A及び4 2 Bの夫々が、走行状態とされる磁気テープT Pを、その走行方向に対して傾斜した軌跡を描くようにして走査するものとされ、それにより、記録／再生選択スイッチ4 0を通じて回転磁気ヘッド4 2 Aに供給される記録用映像信号S V R及び記録／再生選択スイッチ4 1を通じて回転磁気ヘッド4 2 Bに供給される記録用映像信号S V Rが、磁気テープT Pに多数の傾斜記録トラックをもって交互に記録される。

【0033】また、磁気テープT Pが既に映像信号が記録されたものとされたもので記録再生機構部4 3が動作状態とされ、記録／再生選択スイッチ4 0が可動接点4 0 aが選択接点4 0 cに接続される状態とされるとともに、記録／再生選択スイッチ4 1が可動接点4 1 aが選択接点4 1 cに接続される状態とされるとき、一対の回転磁気ヘッド4 2 A及び4 2 Bの夫々による磁気テープT Pに記録された映像信号についての読み取りが行われ、回転磁気ヘッド4 2 Aにより読み取られた映像信号が読み取られた映像信号S V R'をして記録／再生選択スイッチ4 0の選択接点4 0 cを通じて導出されるとともに、回転磁気ヘッド4 2 Bにより読み取られた映像信号も読み取られた映像信号S V R'をして記録／再生選択スイッチ4 1の選択接点4 1 cを通じて導出される。

【0034】記録／再生選択スイッチ4 0の選択接点4 0 cからの読み取られた映像信号S V R'は、再生増幅部4 5を

経てスイッチ4 7に供給され、また、記録／再生選択スイッチ4 1の選択接点4 1 cからの読み取られた映像信号S V R'は、再生増幅部4 6を経てスイッチ4 7に供給される。スイッチ4 7は、再生増幅部4 5から読み取られた映像信号S V R'が得られるときそれを取り出すとともに、再生増幅部4 6から読み取られた映像信号S V R'が得られるときそれを取り出して、連続した読み取られた映像信号S V R'を形成し、それを映像信号再生処理部4 8に供給する。

【0035】映像信号再生処理部4 8においては、スイッチ4 7からの連続した読み取られた映像信号S V R'に対しての、輝度信号成分と搬送色信号成分との分離、輝度信号成分についての周波数復調、搬送色信号成分についての周波数変換等を含む各種の再生処理がなされて、再生映像信号を形成する再生輝度信号B Y及び再生搬送色信号B Cが得られる。そして、映像信号再生処理部4 8から得られる再生輝度信号B Y及び再生搬送色信号B Cは、再生映像信号出力端子4 9及び5 0に夫々導出されるとともに、表示用信号形成部5 1に供給される。

【0036】一方、信号選択／合成部3 6においては、制御端子3 6 Aを通じて供給される制御信号C V Dに従い、S / H · A G C部3 3からのサンプリング・ホールド出力信号S I Fが選択されて、サンプリング・ホールド出力信号S I Fに基づく映像信号を形成する輝度信号D Y及び搬送色信号D Cが得られる状態、S / H · A G C部3 4からのサンプリング・ホールド出力信号S I Rが選択されて、サンプリング・ホールド出力信号S I Rに基づく映像信号を形成する輝度信号D Y及び搬送色信号D Cが得られる状態、及び、サンプリング・ホールド出力信号S I Fに基づく映像信号とサンプリング・ホールド出力信号S I Rに基づく映像信号とが合成されて成る合成映像信号を形成する輝度信号D Y及び搬送色信号D Cが得られる状態が、選択的にとられる。従って、信号選択／合成部3 6も、撮像部1 2から得られる撮像出力信号I P F及び撮像部2 2から得られる撮像出力信号I P Rについての選択もしくは合成を行って映像信号を得る映像信号形成部を形成していることになる。

【0037】そして、信号選択／合成部3 6から得られる輝度信号D Y及び搬送色信号D Cは、表示用信号形成部5 1に供給される。表示用信号形成部5 1においては、制御端子5 1 Aを通じて供給される制御信号C V Oに従い、信号選択／合成部3 6からの輝度信号D Y及び搬送色信号D Cに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態、映像信号再生処理部4 8からの再生輝度信号B Y及び再生搬送色信号B Cに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態、及び、輝度信号D Y及び搬送色信号D Cに基づく表示用映像信号と再生輝度信号B Y及び再生搬送色信号B Cに基づく表示用映像信号とが合成されて成る表示用映像信号を形成する赤色原色信号R、

緑色原色信号G及び青色原色信号Bが得られる状態が、選択的にとられる。

【0038】表示用信号形成部51から得られる赤色原色信号R、緑色原色信号G及び青色原色信号Bは、画像表示部23に供給される。それにより、画像表示部23においては、表示用信号形成部51から得られる赤色原色信号R、緑色原色信号G及び青色原色信号Bが形成する表示用映像信号があらわす画像、従って、信号選択／合成部36からの輝度信号DY及び搬送色信号DCが形成する映像信号があらわす画像、映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCが形成する映像信号があらわす画像、もしくは、輝度信号DY及び搬送色信号DCが形成する映像信号があらわす画像と再生輝度信号BY及び再生搬送色信号BCが形成する映像信号があらわす画像とが合成されたものが、再生表示される。

【0039】さらに、図1に示される構成例にあっては、操作部15A～15Dさらには他の操作部を含むものとされる操作ブロック54、及び、操作ブロック54からの各種の操作出力信号が供給されるシステム制御部55が設けられている。操作ブロック54からは、操作部15A～15Dさらには他の操作部が選択操作されることにより、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われる状態、背面側撮像手段を形成する光学系21及び撮像部22による背面側撮像、即ち、自分側撮像が行われる状態、もしくは、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態を指示する撮像状態制御信号XW、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態のもとで、信号選択／合成部35及び36の動作制御を夫々行うための合成状態制御信号XR及びXD、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に記録動作状態もしくは再生動作状態をとらせるための動作状態制御信号XX、表示用信号形成部51の動作制御を行うための信号形成状態制御信号XZ等が含まれる各種の操作出力信号が、システム制御部55へと送出される。

【0040】システム制御部55は、撮像部12及び撮像部22の動作状態についての制御、映像信号形成部を形成する信号選択／合成部35及び36の夫々における信号選択動作もしくは信号合成動作についての制御、記録／再生選択スイッチ40及び41の動作状態についての制御、記録再生機構部43の動作状態についての制御、スイッチ47の動作状態についての制御等を行う動作制御部を形成している。

【0041】そして、システム制御部55は、操作プロ

ック54から、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われる状態を指示する撮像状態制御信号XWが供給されるとき、撮像部12に動作状態をとらせる制御信号C1Fを撮像部12における制御端子12Aに供給するとともに、信号選択／合成部35にS/H・AGC部33からのサンプリング・ホールド出力信号S1Fに基づく映像信号を形成する輝度信号RY及び搬送色信号RCが得られる状態をとらせる制御信号CVRを、信号選択／合成部35における制御端子35Aに、また、信号選択／合成部36にS/H・AGC部33からのサンプリング・ホールド出力信号S1Fに基づく映像信号を形成する輝度信号DY及び搬送色信号DCが得られる状態をとらせる制御信号CVDDを、信号選択／合成部36における制御端子36Aに、夫々供給し、さらに、表示用信号形成部51に信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせる制御信号CV0を、表示用信号形成部51の制御端子51Aに供給する。

【0042】それにより、撮像部12から装置の前面側の撮像対象についての撮像出力信号IPFが得られ、その撮像出力信号IPFに基づいて、信号選択／合成部35から映像信号を形成する輝度信号RY及び搬送色信号RCが得られるとともに、信号選択／合成部36から映像信号を形成する輝度信号DY及び搬送色信号DCが得られる。また、表示用信号形成部51から、そのとき信号選択／合成部36から得られる輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが、画像表示部23に供給される。従って、斯かる際には、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われ、画像表示部23において、図4に示される如くにして、装置の前面側の撮像対象の画像PFが再生表示される。

【0043】そして、このようなもとで、操作ブロック54から、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に記録動作状態をとらせるための動作状態制御信号XXがシステム制御部55に供給されると、システム制御部55は、記録／再生選択スイッチ40に可動接点40aが選択接点40bに接続される状態をとらせるとともに、記録／再生選択スイッチ41に可動接点41aが選択接点41bに接続される状態をとらせる制御信号CWを、記録／再生選択スイッチ40及び41の夫々に供給し、さらに、記録再生機構部43にそれを動作状態とする制御信号CTを供給する。それにより、撮像部12からの撮像出力信号IPFに基づいて信号選択／合成部35から得られる映像信号を形成する輝度信号RY及び搬送色信号RCが、記録用映像信号SVRとして磁気テープTPに記録される状態

とされる。

【0044】斯かる際には、システム制御部55から表示用信号形成部51の制御端子51Aに供給される制御信号CVOが、表示用信号形成部51に信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせるとともに、得られる赤色原色信号R、緑色原色信号G及び青色原色信号Bが、例えば、「録画」という文字情報をもあらわすようにされるものとなされる。それにより、画像表示部23においては、図5に示される如くにして、装置の前面側の撮像対象の画像PFに加えて、「録画」という文字が表示される。

【0045】また、システム制御部55は、操作ブロック54から、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われる状態を指示する撮像状態制御信号XWが供給されるとき、撮像部22における動作状態をとらせる制御信号CIRを撮像部22における制御端子22Aに供給するとともに、信号選択／合成部35にS/H・AGC部34からのサンプリング・ホールド出力信号SIRに基づく映像信号を形成する輝度信号RY及び搬送色信号RCが得られる状態をとらせる制御信号CVRを、信号選択／合成部35における制御端子35Aに、また、信号選択／合成部36にS/H・AGC部34からのサンプリング・ホールド出力信号SIRに基づく映像信号を形成する輝度信号DY及び搬送色信号DCが得られる状態をとらせる制御信号CVDを、信号選択／合成部36における制御端子36Aに、夫々供給し、さらに、表示用信号形成部51に信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせる制御信号CVOを、表示用信号形成部51の制御端子51Aに供給する。

【0046】それにより、撮像部22から装置の背面側の撮像対象、即ち、装置の使用者を含む撮像対象についての撮像出力信号IPRが得られ、その撮像出力信号IPRに基づいて、信号選択／合成部35から映像信号を形成する輝度信号RY及び搬送色信号RCが得られるとともに、信号選択／合成部36から映像信号を形成する輝度信号DY及び搬送色信号DCが得られる。また、表示用信号形成部51から、そのとき信号選択／合成部36から得られる輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが、画像表示部23に供給される。従って、斯かる際には、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われ、画像表示部23において、図6に示される如くにして、装置の使用者を含む撮像対象の画像PRが再生表示される。

【0047】そして、このようなもとで、操作ブロック54から、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に記録動作状態をとらせるための動作状態制御信号XXがシステム制御部55に供給されると、システム制御部55は、記録／再生選択スイッチ40に可動接点40aが選択接点40bに接続される状態をとらせるとともに、記録／再生選択スイッチ41に可動接点41aが選択接点41bに接続される状態をとらせる制御信号CWを、記録／再生選択スイッチ40及び41の夫々に供給し、さらに、記録再生機構部43にそれを動作状態とする制御信号CTを供給する。それにより、撮像部22からの撮像出力信号IPRに基づいて信号選択／合成部35から得られる映像信号を形成する輝度信号RY及び搬送色信号RCが、記録用映像信号SVRとして磁気テープTPに記録される状態となる。

【0048】斯かる際には、システム制御部55から表示用信号形成部51の制御端子51Aに供給される制御信号CVOが、表示用信号形成部51に信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせるとともに、得られる赤色原色信号R、緑色原色信号G及び青色原色信号Bが、例えば、「録画」という文字情報をもあらわすようにされるものとなされる。それにより、画像表示部23においては、図7に示される如くにして、装置の使用者を含む撮像対象の画像PRに加えて、「録画」という文字が表示される。

【0049】一方、システム制御部55は、操作ブロック54から、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態を指示する撮像状態制御信号XWが供給され、それに加えて、信号選択／合成部35及び36の動作制御を夫々行うための合成状態制御信号XR及びXDが供給されるとき、撮像部12に動作状態をとらせる制御信号CIFを撮像部12における制御端子12Aに供給するとともに、撮像部22に動作状態をとらせる制御信号CIRを撮像部22における制御端子22Aに供給し、また、信号選択／合成部35に合成状態制御信号XRに応じた、サンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号との合成動作を行わせるための制御信号CVRを、信号選択／合成部35における制御端子35Aに供給するとともに、信号選択／合成部36に合成状態制御信号XDに応じた、サンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号との合成動作を行わせるための制御信号CVDを、信号選択／合成部36における制御端子36Aに供給する。さらに、シス

ム制御部55は、表示用信号形成部51に信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせる制御信号CVOを、表示用信号形成部51の制御端子51Aに供給する。

【0050】それにより、撮像部12から装置の前面側の撮像対象についての撮像出力信号IPFが得られるとともに、撮像部22から装置の使用者を含む撮像対象についての撮像出力信号IPRが得られ、撮像出力信号IPF及びIPRの両者に基づいて、信号選択／合成部35からサンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号とが合成されて成る合成映像信号を形成する輝度信号RY及び搬送色信号RCが得られるとともに、信号選択／合成部36からもサンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号とが合成されて成る合成映像信号を形成する輝度信号DY及び搬送色信号DCが得られる。

【0051】また、表示用信号形成部51から、そのとき信号選択／合成部36から得られる輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが、画像表示部23に供給される。従って、斯かる際には、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われ、画像表示部23において、装置の前面側の撮像対象の画像と装置の使用者を含む撮像対象の画像とが合成されて再生表示される。斯かる際における装置の前面側の撮像対象の画像と装置の使用者を含む撮像対象の画像との合成様は、操作ブロック54からシステム制御部55に供給される合成状態制御信号XDに従って定められ、例えば、図8に示される如くに、画像表示部23における表示画面が2等分され、そのうちの一方に装置の前面側の撮像対象の画像PFが表示されるとともに他方に装置の使用者を含む撮像対象の画像PRが表示されるもの、あるいは、図9に示される如くに、装置の前面側の撮像対象の画像PFの一部分が装置の使用者を含む撮像対象の画像PRにより置き換えられて表示される、所謂、ピクチャー・イン・ピクチャーの形式がとられるもの等とされる。

【0052】そして、このようなもとで、操作ブロック54から、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に記録動作状態をとらせるための動作状態制御信号XXがシステム制御部55に供給されると、システム制御部55は、記録／再生選択スイッチ40に可動接点40aが選択接点40bに接続される状態をとらせるとともに、記録／再生選択スイ

ッチ41に可動接点41aが選択接点41bに接続される状態をとらせる制御信号CWを、記録／再生選択スイッチ40及び41の夫々に供給し、さらに、記録再生機構部43にそれを動作状態とする制御信号CTを供給する。それにより、撮像部12からの撮像出力信号IPF及び撮像部22からの撮像出力信号IPRの両者に基づいて、信号選択／合成部35から得られる、サンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号とが合成されて成る合成映像信号を形成する輝度信号RY及び搬送色信号RCが、記録用映像信号SVRとして磁気テープTPに記録される状態とされる。

【0053】このようにして磁気テープTPに記録されることになる輝度信号RY及び搬送色信号RCを形成するに際しての、サンプリング・ホールド出力信号SIFに基づく映像信号とサンプリング・ホールド出力信号SIRに基づく映像信号との合成様は、操作ブロック54からシステム制御部55に供給される合成状態制御信号XRに従って定められ、信号選択／合成部35から得られる輝度信号RY及び搬送色信号RCは、そのとき信号選択／合成部36から得られる輝度信号DY及び搬送色信号DCと同一のもの、あるいは、そのとき信号選択／合成部36から得られる輝度信号DY及び搬送色信号DCとは異なるものとされる。

【0054】上述の如くにしてとられる、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われる状態、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われる状態、及び、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態の相互間における切換えは、装置における前面側と背面側との位置を反転させる操作等が不要とされるもとで、操作ブロック54に含まれる操作部15A～15Dさらには他の操作部についての選択操作がなされることにより、迅速かつ的確に行われる。

【0055】また、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われる状態、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われる状態、及び、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態の相互間における切換えの際には、画像表示部23において再生表示される画像の切換えがなされるが、斯かる画像表示部23において再生表示される画像の切換えにあたって、所謂、フェードイン、フェードアウト、横方向あるいは縦方向のワイプ等の技法を適用することもできる。

【0056】さらに、システム制御部55は、前面側撮像手段を形成する光学系11及び撮像部12による前方

側撮像が行われる状態、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われる状態、及び、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われる状態のいずれかがとられているもとで、操作ブロック54から、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に再生動作状態をとらせるための動作状態制御信号XXが供給され、それに加えて、表示用信号形成部51の動作制御を行うための信号形成状態制御信号XZが供給されるとき、記録／再生選択スイッチ40に可動接点40aが選択接点40cに接続される状態をとらせるとともに、記録／再生選択スイッチ41に可動接点41aが選択接点41cに接続される状態をとらせる制御信号CWを、記録／再生選択スイッチ40及び41の夫々に供給し、また、記録再生機構部43にそれを動作状態とする制御信号CTを供給し、さらに、スイッチ47にそれを動作させる制御信号CSを供給する。

【0057】それにより、一対の回転磁気ヘッド42A及び42Bの夫々による磁気テープTPに記録された映像信号についての読み取りが行われ、回転磁気ヘッド42Aにより読み取られた映像信号が読み取映像信号SVR'をして記録／再生選択スイッチ40の選択接点40cを通じて導出されるとともに、回転磁気ヘッド42Bにより読み取られた映像信号も読み取映像信号SVR'をして記録／再生選択スイッチ41の選択接点41cを通じて導出され、それに基づいて、映像信号再生処理部48から再生輝度信号BY及び再生搬送色信号BCが得られる。

【0058】また、システム制御部55は、信号形成状態制御信号XZに応じて、表示用信号形成部51に、信号選択／合成部36からの輝度信号DY及び搬送色信号DCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態、映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態、もしくは、輝度信号DY及び搬送色信号DCに基づく表示用映像信号と再生輝度信号BY及び再生搬送色信号BCに基づく表示用映像信号とが合成されて成る表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせる制御信号CVOを、表示用信号形成部51の制御端子51Aに供給する。

【0059】その結果、表示用信号形成部51からの赤色原色信号R、緑色原色信号G及び青色原色信号Bが供給される画像表示部23にあっては、信号形成状態制御信号XZに応じて、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像が行われて得られる

装置の前面側の撮像対象の画像が再生表示される状態、背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像が行われて得られる装置の使用者を含む撮像対象の画像が再生表示される状態、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像と背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像とが同時に行われて得られる装置の前面側の撮像対象の画像と装置の使用者を含む撮像対象の画像とが合成されて再生表示される状態、あるいは、装置の前面側の撮像対象の画像もしくは装置の使用者を含む撮像対象の画像と映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく画像とが合成されて再生表示される状態がとられる。

【0060】装置の前面側の撮像対象の画像もしくは装置の使用者を含む撮像対象の画像と映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく画像とが合成されて再生表示される状態のもとににおける画像の合成様式は、操作ブロック54からシステム制御部55に供給される信号形成状態制御信号XZに従って定められ、例えば、図10に示される如くに、映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく画像PBの一部分が装置の使用者を含む撮像対象の画像PRにより置き換えられて表示される、所謂、ピクチャー・イン・ピクチャーの形式がとられるもの等とされる。

【0061】なお、前面側撮像手段を形成する光学系11及び撮像部12による前方側撮像及び背面側撮像手段を形成する光学系21及び撮像部22による自分側撮像のいずれもが行われていないもとで、操作ブロック54からシステム制御部55に、記録／再生選択スイッチ40及び41、記録再生機構部43及びスイッチ47に再生動作状態をとらせるための動作状態制御信号XXが供給され、それに加えて、表示用信号形成部51の動作制御を行うための信号形成状態制御信号XZが供給されるときには、システム制御部55は、記録／再生選択スイッチ40に可動接点40aが選択接点40cに接続される状態をとらせるとともに、記録／再生選択スイッチ41に可動接点41aが選択接点41cに接続される状態をとらせる制御信号CWを、記録／再生選択スイッチ40及び41の夫々に供給し、また、記録再生機構部43にそれを動作状態とする制御信号CTを供給し、さらに、スイッチ47にそれを動作させる制御信号CSを供給する。

【0062】それにより、一対の回転磁気ヘッド42A及び42Bの夫々による磁気テープTPに記録された映像信号についての読み取りが行われ、回転磁気ヘッド42Aにより読み取られた映像信号が読み取映像信号SVR'をして記録／再生選択スイッチ40の選択接点40cを通じて導出されるとともに、回転磁気ヘッド42Bにより読み取られた映像信号も読み取映像信号SVR'をして

記録／再生選択スイッチ41の選択接点41cを通じて導出され、それに基づいて、映像信号再生処理部48から再生輝度信号BY及び再生搬送色信号BCが得られる。

【0063】また、システム制御部55は、表示用信号形成部51に、映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく表示用映像信号を形成する赤色原色信号R、緑色原色信号G及び青色原色信号Bが得られる状態をとらせる制御信号CVOを、表示用信号形成部51の制御端子51Aに供給する。その結果、表示用信号形成部51からの赤色原色信号R、緑色原色信号G及び青色原色信号Bが供給される画像表示部23においては、映像信号再生処理部48からの再生輝度信号BY及び再生搬送色信号BCに基づく画像が再生表示される。

【0064】図11は、図2及び図3において外観が示された本発明に係る画像表示部付撮像装置の一例を成す装置の要部について他の構成例を示す。図11に示される構成例は、その大部分が図1の構成例と同様に構成されたものとなされており、図11においては、図1に示される各部及び各信号に対応する部分及び信号が、図1と共に符号が付されて示されており、それらについての重複説明は省略される。

【0065】図11に示される構成例にあっては、駆動信号形成部30及びタイミング信号形成部31に加えて、駆動信号形成部30と同様なものとされる駆動信号形成部30'及びタイミング信号形成部31と同様なものとされるタイミング信号形成部31'が設けられている。タイミング信号形成部31'には、同期信号発生部32からの垂直同期信号SV及び水平同期信号SHが、タイミング信号形成部31と共に供給される。

【0066】タイミング信号形成部31'は、タイミング信号形成部31が送出する垂直方向クロック信号CV、水平方向クロック信号CH、及び、読出指令信号CO及びCEに夫々相当する垂直方向クロック信号CV'、水平方向クロック信号CH'、及び、読出指令信号CO'及びCE'を送出して、それらを駆動信号形成部30'に供給する。駆動信号形成部30'は、駆動信号形成部30が送出する読出ゲート駆動信号φGO及びφGE、2相の垂直転送信号φV1及びφV2、及び、2相の水平転送信号φH1及びφH2に夫々相当する読出ゲート駆動信号φCO'及びφGE'、2相の垂直転送信号φV1'及びφV2'、及び、2相の水平転送信号φH1'及びφH2'を送出する。

【0067】そして、図11に示される構成例の場合は、駆動信号形成部30からの読出ゲート駆動信号φGO及びφGE、2相の垂直転送信号φV1及びφV2、及び、2相の水平転送信号φH1及びφH2が、撮像部12を構成する固体撮像素子の撮像面形成部に供給さ

れ、また、駆動信号形成部30'からの読出ゲート駆動信号φGO'及びφGE'、2相の垂直転送信号φV1'及びφV2'、及び、2相の水平転送信号φH1'及びφH2'が、撮像部22を構成する固体撮像素子の撮像面形成部に供給される。即ち、光学系11と共に前面側撮像手段を形成する撮像部12と光学系21と共に背面側撮像手段を形成する撮像部22とが、個別の駆動手段によって駆動されるのである。

【0068】それにより、撮像部12においては、制御端子12Aを通じて供給される制御信号CIFに従って動作状態におかれるとき、それを構成する固体撮像素子の撮像面形成部から、読出ゲート駆動信号φGO、垂直転送信号φV1及びφV2、及び、水平転送信号φH1及びφH2に応じて、映像信号の各奇数フィールド期間分の撮像出力信号IPFが得られるとともに、読出ゲート駆動信号φGE、垂直転送信号φV1及びφV2、及び、水平転送信号φH1及びφH2に応じて、映像信号の各偶数フィールド期間分の撮像出力信号IPFが得られる。また、撮像部22においては、制御端子22Aを通じて供給される制御信号CIRに従って動作状態におかれるとき、それを構成する固体撮像素子の撮像面形成部から、読出ゲート駆動信号φGO'、垂直転送信号φV1'及びφV2'、及び、水平転送信号φH1'及びφH2'に応じて、映像信号の各奇数フィールド期間分の撮像出力信号IPRが得られるとともに、読出ゲート駆動信号φGE'、垂直転送信号φV1'及びφV2'、及び、水平転送信号φH1'及びφH2'に応じて、映像信号の各偶数フィールド期間分の撮像出力信号IPRが得られる。

【0069】その他の構成及び動作は図1の構成例の場合と同様であるので、それらについての説明は省略される。このような図11に示される構成例にあっては、図1の構成例の場合と同様な作用効果が得られるとともに、撮像部12と撮像部22とが個別の駆動手段によって駆動されるので、撮像部12及び撮像部22の夫々が最適条件のもとに駆動される状態の設定が容易とされる利点が得られる。

【0070】図12は、本発明に係る画像表示部付撮像装置の他の例を成す装置の背面側を示す。図12に背面側が示される例は、その大部分が図2及び図3に示される例と同様に構成されたものとなされており、図12においては、図3に示される各部に対応する部分が、図3と共に符号が付されて示されており、それらについての重複説明は省略される。

【0071】図12に背面側が示される例にあっては、背面側撮像手段を形成するものとされる、レンズ、絞り、フィルタ等を含んで成る光学系21、及び、その直後に位置せしめられる撮像部22が、筒状体60内に、光学系21の前端部を外部に臨ませる状態をもって収容されたものとされる。光学系21及び撮像部22を収容

した筒状体60は、装置本体に設けられた係合孔61に係合せしめられ、光学系21の前端部を後方に臨ませる状態とされて装置本体の内部に保持される状態と、係合孔61との係合が解除されて、装置本体から離脱せしめられる状態とを選択的にとるものとされる。そして、筒状体60内に収容された撮像部22は、接続コード62を通じて、装置本体の内部における回路構成部との電気的接続がなされている。

【0072】即ち、撮像部22が接続コード62を通じて装置本体の内部における回路構成部との電気的接続がなされたもとで、光学系21及び撮像部22を収容した筒状体60が、装置本体に対して着脱可能なものとされているのである。接続コード62は、筒状体60が装置本体に装着された状態におけるときには装置本体内に巻き取られ、筒状体60が装置本体から離脱せしめられるときには装置本体内から引き出される。

【0073】このように構成されて図12に背面側が示される例も、その要部の構成は、例えば、図1に示される構成例と同様なものとされる。そして、斯かる図12に背面側が示される例にあっては、光学系21及び撮像部22により形成される背面側撮像手段を、装置本体から離隔した位置に配置して、前方側撮像及び自分側撮像を行うことができ、使用上の自由度が拡大されることになる。

【0074】なお、上述の各例においては、装置本体に設けられた操作部15A～15D及びその他の操作部の操作によって、各種の制御が行われるようにされているが、操作部15A～15D及びその他の操作部の操作の全部あるいは一部に代えて、有線式あるいは無線式の遠隔制御操作により、各種の制御が行われるようになすことができる。

【0075】

【発明の効果】以上の説明から明らかな如く、本発明に係る画像表示部付撮像装置にあっては、第1の撮像部及び第2の撮像部が備えられ、前面側及び背面側についての配置転換等が要されることなく、第1の撮像部から前面側の撮像対象についての撮像出力信号が得られ、その撮像出力信号に基づく映像信号が形成される状態、及び、第2の撮像部から背面側の撮像対象についての撮像出力信号が得られ、その撮像出力信号に基づく映像信号が形成される状態が、動作制御部によって選択される。従って、使用者が、前方の撮像対象に向けられた装置の前面側を反転させて後方の自分側に向ける取扱い、あるいは、自分の方に向けられた装置の前面側を反転させて前方の撮像対象に向ける取扱いを行うことなく、前方側撮像と自分側撮像とを行うことができ、しかも、動作制御部を動作させることにより、前方側撮像が行われる状態から自分側撮像が行われる状態への切換え、さらには、自分側撮像が行われる状態から前方側撮像が行われる状態への切換えを極めて迅速に行うことができること

になる。

【0076】また、第1の撮像部から前面側の撮像対象についての撮像出力信号が得られるとともに第2の撮像部から背面側の撮像対象についての撮像出力信号が得られて、両撮像出力信号に基づく映像信号が形成される状態も、動作制御部による制御によって選択されるので、使用者が、前方側撮像と自分側撮像とを同時に行うこともできることになる。

【0077】そして、画像表示部においては、第1の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像、第2の撮像部から得られる撮像出力信号に基づく映像信号があらわす画像、及び、第1の撮像部から得られる撮像出力信号と第2の撮像部から得られる撮像出力信号との両者に基づく映像信号があらわす画像の再生表示が選択的に行われ、従って、使用者は、前方側撮像がなされて得られる画像、自分側撮像がなされて得られる画像、及び、前方側撮像と自分側撮像とが同時になされて得られる画像を選択的に観ることができることになる。

【図面の簡単な説明】

【図1】本発明に係る画像表示部付撮像装置の一例を成す装置の要部の構成例を示すブロック接続図である。

【図2】本発明に係る画像表示部付撮像装置の一例を成す装置の外観を示す正面図である。

【図3】本発明に係る画像表示部付撮像装置の一例を成す装置の外観を示す背面図である。

【図4】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図5】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図6】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図7】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図8】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図9】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図10】本発明に係る画像表示部付撮像装置の一例を成す装置が備える画像表示部において得られる再生画像の説明に供される概念図である。

【図11】本発明に係る画像表示部付撮像装置の一例を成す装置の要部の他の構成例を示すブロック接続図である。

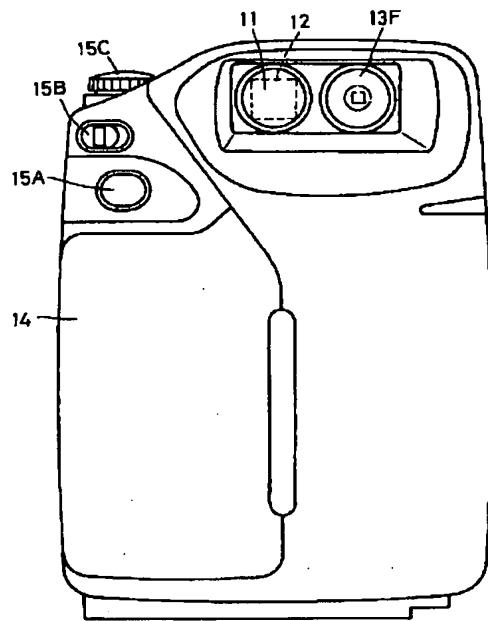
【図12】本発明に係る画像表示部付撮像装置の他の例を成す装置の外観を示す背面図である。

【符号の説明】

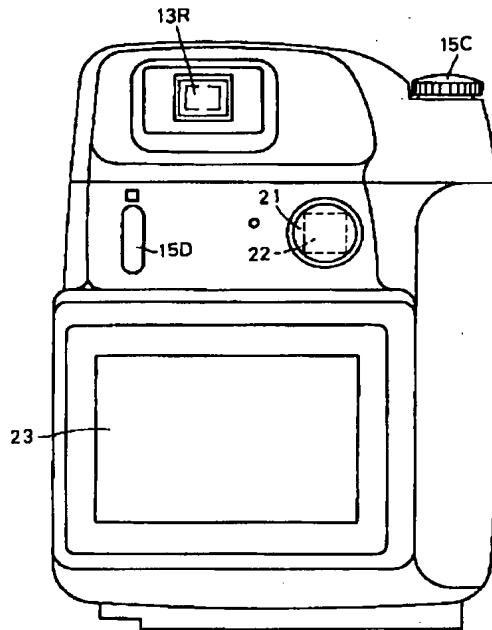
- 11, 21 光学系
- 12, 22 撮像部
- 13F 光学ファインダの前端部
- 13R 光学ファインダの後端部
- 14 カセット着脱用開閉部
- 15A, 15B, 15C, 15D 操作部
- 23 画像表示部
- 30, 30' 駆動信号形成部
- 31, 31' タイミング信号形成部
- 32 同期信号発生部
- 33, 34 S/H/A/G/C部

- 35, 36 信号選択／合成部
- 37 映像信号記録用処理部
- 38, 39 記録増幅部
- 40, 41 記録／再生選択スイッチ
- 42A, 42B 回転磁気ヘッド
- 43 記録再生機構部
- 45, 46 再生増幅部
- 47 スイッチ
- 48 映像信号再生処理部
- 51 表示信号形成部
- 54 操作ブロック
- 55 システム制御部
- T P 磁気テープ

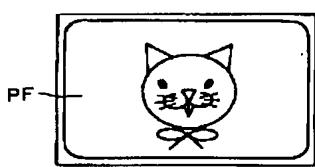
【図2】



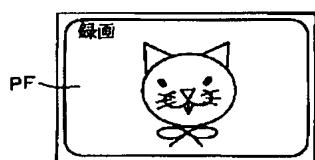
【図3】



【図4】



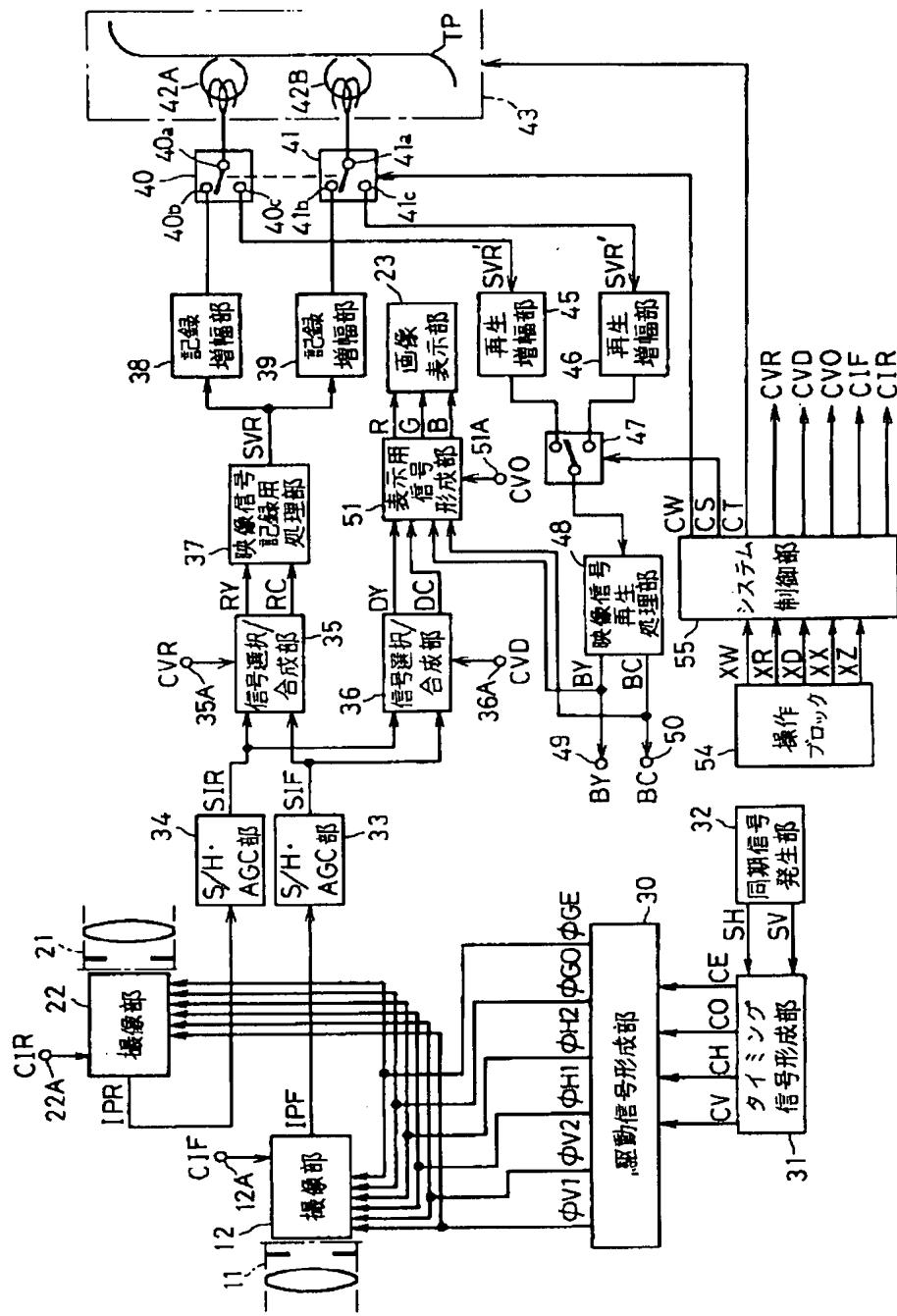
【図5】



【図6】



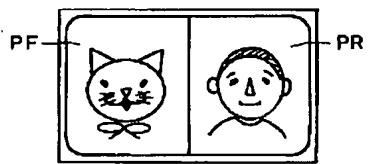
【図1】



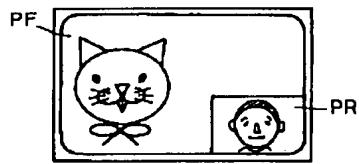
【図7】



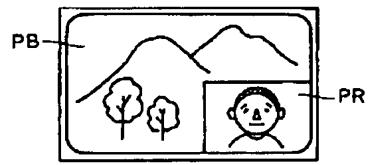
【図8】



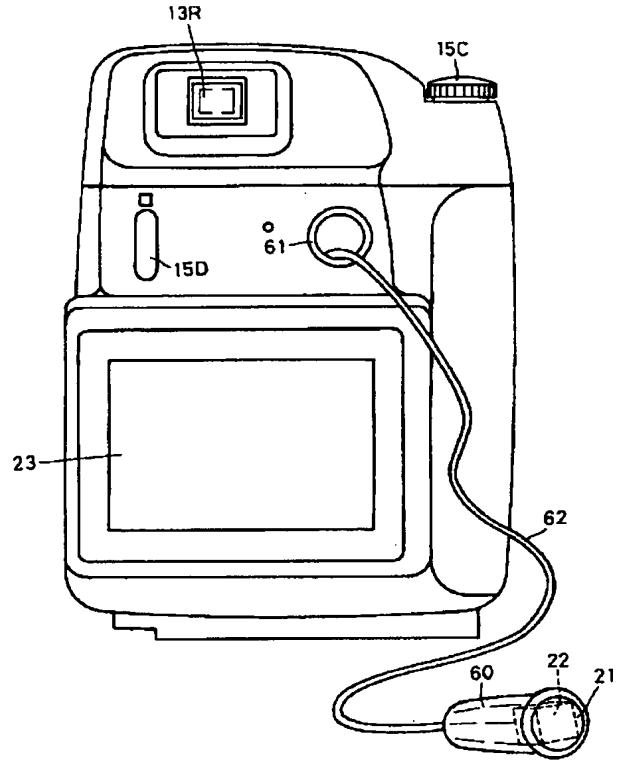
【図9】



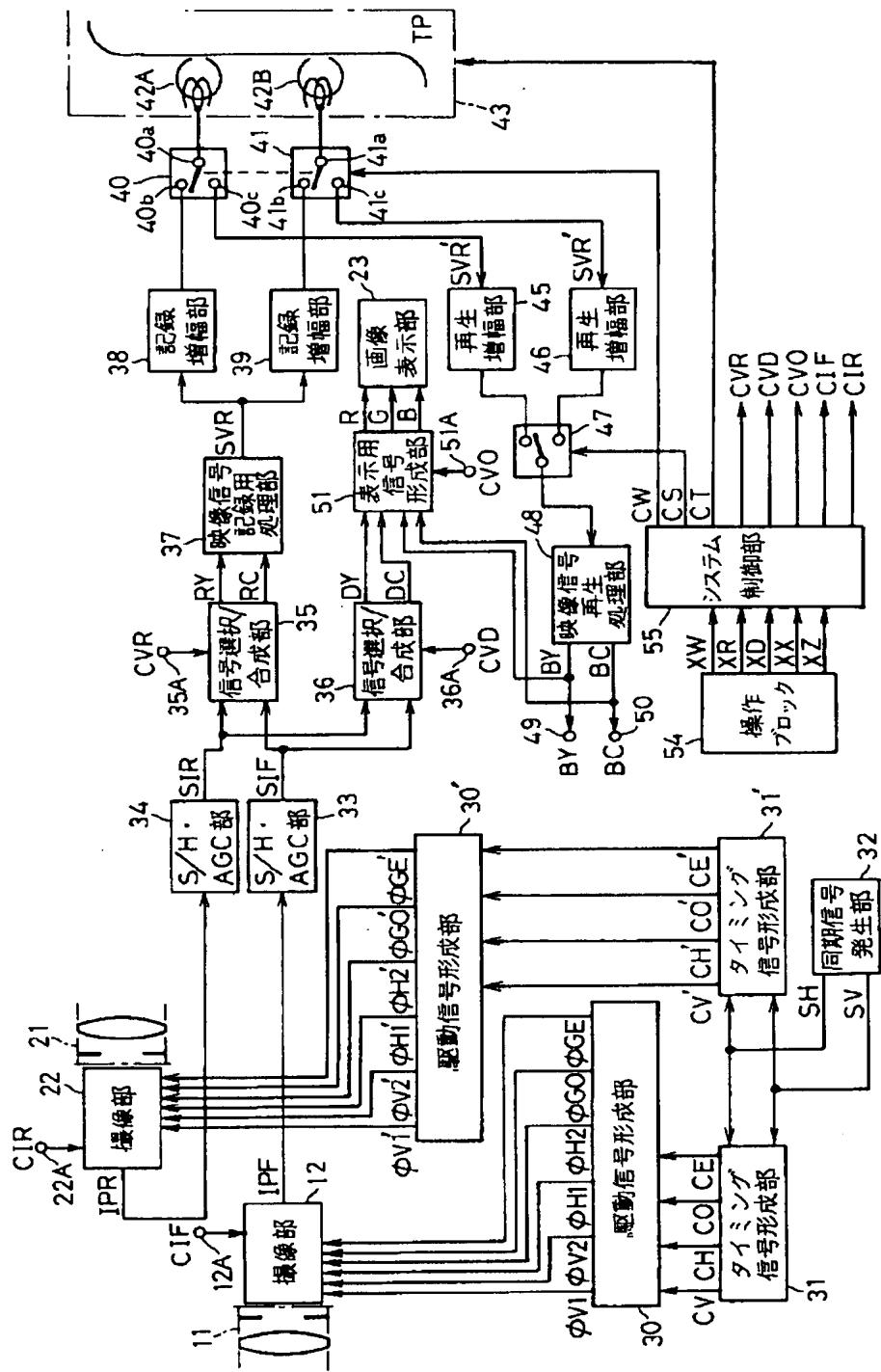
【図10】



【図12】



【図11】



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(54) IMAGE PICKUP DEVICE WITH IMAGE DISPLAY SECTION

(57)Abstract:

PURPOSE: To attain an image of a front side and this side while eliminating the need for the arrangement change as to the front side and this side and to attain quick changeover from the front side image pickup state to this side image pickup state and vice versa.

CONSTITUTION: The image pickup device is provided with an image pickup section 12 to obtain an image pickup output signal as to the front side image pickup object, an image pickup section 22 to obtain an image pickup output signal as to the rear side image pickup object, and signal selection/composite sections 35, 36 to obtain a video signal by selection or composites of an image pickup output signal obtained from the image pickup section 12 and an image pickup output signal obtained from the image pickup section 22, a system control section 35 controlling the signal selection or the signal synthesis by the signal selection/composite sections 35, 36 and an image display section 23 arranged at the rear side and reproducing and displaying the image based on the video signal obtained from the signal selection/composite sections 36.

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CLAIMS

[Claim(s)]

[Claim 1] The 1st image pick-up section from which the image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired, The 2nd image pick-up section from which the image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired, The video-signal formation section which performs the selection about an image pick-up output signal or composition obtained from the image pick-up output signal acquired from the image pick-up section of the above 1st, and the image pick-up section of the above 2nd, and acquires a video signal, Image pick-up equipment with the image display section constituted by having the image display section which performs the playback display of an image based on the video signal with which the control section of operation which performs

control about the signal selection actuation in this video-signal formation section or signal composition actuation is matched for a tooth-back side, and which is acquired from the above-mentioned video-signal formation section.

[Claim 2] Image pick-up equipment with the image display section according to claim 1 characterized by the 1st image pick-up section and the 2nd image pick-up section driving by the common mechanical component.

[Claim 3] Image pick-up equipment with the image display section according to claim 1 characterized by the 1st image pick-up section and the 2nd image pick-up section driving by the mechanical component prepared according to the individual, respectively.

[Claim 4] Image pick-up equipment with the image display section according to claim 1 characterized by having the video-signal Records Department which records the video signal acquired from the video-signal formation section on a record medium.

[Claim 5] 1st signal selection / composition section which supplies the video signal the video-signal formation section formed by performing the selection about an image pick-up output signal or composition obtained from the image pick-up output signal and the 2nd image pick-up section which are obtained from the 1st image pick-up section to the video-signal Records Department, Being constituted including 2nd signal selection / composition section which supplies

the video signal which formed by performing the selection about an image pick-up output signal or composition obtained from the image pick-up output signal acquired from the image pick-up section of the above 1st, and the image pick-up section of the above 2nd to the image display section Image pick-up equipment with the image display section according to claim 4 by which it is characterized.

[Claim 6] Image pick-up equipment with the image display section according to claim 4 or 5 characterized by having the video-signal playback section which reads in this record medium the video signal recorded on the record medium, and is reproduced.

[Claim 7] The image display section receives the motion control by the control section of operation, and the video signal acquired from the video-signal formation section and the video signal reproduced by the video-signal playback section are supplied. The display of the image which the video signal based on the image pick-up output signal acquired from the 1st image pick-up section expresses, As that by which the video signal based on the image pick-up output signal acquired from the display of the image which the video signal based on the image pick-up output signal acquired from the 2nd image pick-up section expresses, and the image pick-up section of the above 1st, and the video signal based on the image pick-up output signal acquired from the image pick-up

section of the above 2nd were compounded Display and the image which the video signal acquired expresses reaches. By the video signal based on the image pick-up output signal acquired from the image pick-up section of the above 1st, or the 2nd image pick-up section, and the above-mentioned video-signal playback section Image pick-up equipment with the image display section according to claim 6 characterized by displaying the image which the video signal acquired as that by which the reproduced video signal was compounded expresses alternatively.

[Claim 8] Image pick-up equipment with the image display section according to claim 7 characterized by performing the image display section alternatively also in the display of the image which the video signal reproduced by the video-signal playback section expresses.

[Claim 9] Image pick-up equipment with the image display section according to claim 1 to 8 characterized by connecting with the above-mentioned video-signal formation section electrically through a connecting cord while it has the body section in which the image display section was prepared while building in the video-signal formation section and a control section of operation, and the 1st image pick-up section fixes in the above-mentioned body section and the 2nd image pick-up section is made removable to the above-mentioned body section.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the image pick-up equipment with the image display section which it should have in the image pick-up section from which the image pick-up output signal about the candidate for an image pick-up is acquired, and the image display section which indicates by playback the image which the video signal based on the image pick-up output signal from the image pick-up section expresses.

[0002]

[Description of the Prior Art] It has the image pick-up section which performs image pick-up actuation about the candidate for a dynamic image pick-up, and acquires an image pick-up output signal, and the video-signal formation section which acquire a video signal based on the image pick-up output signal from the image pick-up section, and practical use is presented as pocket mold image

pick-up equipment made comparatively statically small in the image pick-up equipment with the image-display section with which the image-display section indicate by playback the image the video signal further acquired from the video-signal formation section expresses was prepared. moreover, the video signal with which this image pick-up equipment with the image-display section is obtained by the video-signal formation section based on the image pick-up output signal from the image pick-up section -- for example, -- comparatively -- smallness -- it should also have the video-signal record playback section which performs the actuation which reproduces a video signal in many cases from the actuation which records on the record medium used as the magnetic tape held in the tape cassette which has a dimension, and the record medium with which a video signal was recorded

[0003] If it is in such image pick-up equipment with the image display section Usually, a solid state image sensor with the image pick-up side formation section which the charge transfer section by the charge-coupled device (charge KAPPURUDO device: CCD) to which the image pick-up section transmits the signal charge obtained by the pixel and each pixel of a large number which perform photo electric conversion is allotted, and changes is used, and it is constituted. While the optical system which changes including the lens made to be located by the image pick-up side formation section and its front, a diaphragm,

a filter, etc. is turned ahead and allotted to a front-face side From a back side, the image with which the image display section is back turned to a tooth-back side, therefore it is indicated by playback by the image display section is seen, and is made and arranged. Let the image display section be the thing of the flat-surface mold which liquid crystal is used and changes.

[0004] Like ****, carry out, and the image pick-up side formation section and optical system of a solid state image sensor which constitute the image pick-up section are turned ahead, and are allotted to a front-face side. moreover, when the image pick-up equipment with the image display section with which the image display section was back turned and was allotted to the tooth-back side is actually used Usually, it is made to be carried out in the image pick-up about the candidate for an image pick-up by the image pick-up section in the basis in which the user turned image pick-up equipment with the image display section to the front candidate for an image pick-up, and established the front-face side, i.e., a front side image pick-up. In case this front side image pick-up is performed, while the image pick-up output signal about the front candidate for an image pick-up is acquired from the image pick-up section, the video signal based on the image pick-up output signal is acquired from the video-signal formation section. And a playback indication of the image which the video signal from the video-signal formation section expresses in the image display section, i.e., the

image for [front] an image pick-up, is given, and record to the record medium about the video signal from the video-signal formation section is further performed in the video-signal record playback section if needed.

[0005] Moreover, the usage depending on which it is made to be carried out in the image pick-up which made applicable to an image pick-up itself, i.e., a oneself side image pick-up, is also made. [by the image pick-up section in the basis in which the user turned the front-face side to back oneself, and established image pick-up equipment with the image display section direction such usual used] And when a oneself side image pick-up is performed, even if it is, while the image pick-up output signal about the user who is a candidate for an image pick-up, and its circumference is acquired from the image pick-up section The video signal based on the image pick-up output signal is acquired from the video-signal formation section. A playback indication of the image which the video signal from the video-signal formation section expresses in the image display section, i.e., a user, and the image of the circumference of it is given, and record to the record medium about the video signal from the video-signal formation section is further performed in the video-signal record playback section if needed.

[0006]

[Problem(s) to be Solved by the Invention] The image pick-up side formation

section and optical system of a solid state image sensor which constitute the image pick-up section like **** are turned ahead, and are allotted to a front-face side. moreover, when a oneself side image pick-up is performed in presenting actual use with the image pick-up equipment with the image display section with which the image display section was back turned and was allotted to the tooth-back side When the handling by which the user of equipment makes it reversed and turns to a oneself side in behind the front-face side of the equipment which is in the condition that a front side image pick-up is performed in usual, and is turned to the front candidate for an image pick-up each time is performed and a oneself side image pick-up is completed further, The handling which turns again ahead the front-face side of the equipment turned to its direction must be performed. Therefore, for a change in the condition that a oneself side image pick-up is performed from the condition that a front side image pick-up is performed, and a change in the condition that a front side image pick-up is further performed from the condition that a oneself side image pick-up is performed to require troublesome actuation, and to perform them quickly moreover for a user, will be made into a difficult thing.

[0007] Moreover, so, when a front side image pick-up and a oneself side image pick-up are performed continuously, the video signal acquired by front side image pick-up and the video signal acquired by oneself side image pick-up are

not connected smoothly, but there is a possibility of becoming what unnaturalness is sensed as. Furthermore, there is also a possibility that the video-signal record playback section may set to record operating state, therefore record media, such as a magnetic tape, may be vainly consumed also during the period when a change in the condition that a oneself side image pick-up is performed from the condition that a front side image pick-up is performed depending on the method of actuation by the user, or a change in the condition that a front side image pick-up is performed from the condition that a oneself side image pick-up is performed is made.

[0008] It is the basis which it should have in the image display section which this invention was back turned to the tooth-back side in view of this point, and was allotted. A user reverses the front-face side of the equipment turned to the front candidate for an image pick-up, and it is dealt with towards a oneself side in behind. Or, without performing the handling which is made to reverse the front-face side of the equipment turned to its direction, and is turned to the front candidate for an image pick-up Can perform a front side image pick-up and a oneself side image pick-up, and, moreover, to a change in the condition that a oneself side image pick-up is performed from the condition that a front side image pick-up is performed, and a pan It aims at offering the image pick-up equipment with the image display section with which a change in the condition)

that a front side image pick-up is performed from the condition that a oneself side image pick-up is performed will be performed very quickly.

[0009]

[Means for Solving the Problem] The image pick-up equipment with the image display section concerning this invention that the above-mentioned purpose should be attained. The 1st image pick-up section from which the image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired. It has the 2nd image pick-up section from which the image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired. Furthermore, the video-signal formation section which performs the selection about an image pick-up output signal or composition obtained from the image pick-up output signal and the 2nd image pick-up section which are obtained from the 1st image pick-up section, and acquires a video signal. It has the image display section which performs the playback display of an image based on the video signal with which the control section of operation which performs control about the signal selection actuation in the video-signal formation section or signal composition actuation is matched for a tooth-back side, and which is acquired from the video-signal formation section, and is constituted.

[0010]

[Function] Thus, if it is in the image pick-up equipment with the image display section concerning this invention constituted While being turned ahead and allotting the optical system which accompanies it to a front-face side, the 1st image pick-up section It shall be turned back and the optical system to which the 2nd image pick-up section accompanies it is allotted to a tooth-back side. Moreover, by the video-signal formation section Since the image pick-up output signal from each of the 1st image pick-up section and the 2nd image pick-up section is chosen or compounded and a video signal is formed The image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired from the 1st image pick-up section, without the transfer about a front-face side and a tooth-back side etc. requiring. The condition that the video signal based on the image pick-up output signal is acquired from the video-signal formation section, And the image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired from the 2nd image pick-up section, and the condition that the video signal based on the image pick-up output signal is acquired from the video-signal formation section is chosen by control by the control section of operation.

[0011] Therefore, a user reverses the front-face side of the equipment turned to the front candidate for an image pick-up, and it is dealt with towards a oneself side in behind. Or, without performing the handling which is made to reverse the

front-face side of the equipment turned to its direction, and is turned to the front candidate for an image pick-up A front side image pick-up and a oneself side image pick-up can be performed, and a change in the condition that a oneself side image pick-up is moreover performed from the condition that a front side image pick-up is performed, and a change in the condition that a front side image pick-up is further performed from the condition that a oneself side image pick-up is performed will be performed very quickly.

[0012] Moreover, while the image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired from the 1st image pick-up section, the image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired from the 2nd image pick-up section, and the condition that the video signal based on both the image pick-up output signal is acquired from the video-signal formation section is also chosen by control by the control section of operation. By that cause, a user can perform a front side image pick-up and a oneself side image pick-up to coincidence.

[0013] And the image which the video signal based on the image pick-up output signal acquired from the 1st image pick-up section expresses in the image display section, the image which the video signal based on the image pick-up output signal acquired from the 2nd image pick-up section expresses, And the playback display of the image which the video signal based on both image

pick-up output signal acquired from the 1st image pick-up section and image pick-up output signal acquired from the 2nd image pick-up section expresses is performed alternatively. Therefore, the image which a front side image pick-up is made and is obtained, the image which a oneself side image pick-up is made and is obtained, and the image with which a front side image pick-up and a oneself side image pick-up are made by coincidence, and are obtained will be displayed alternatively.

[0014]

[Example] The equipment which accomplishes an example of the image pick-up equipment with the image display section which drawing 2 and drawing 3 express the appearance of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention, and is applied to this this invention The video signal acquired based on the image pick-up output signal from the image pick-up section with which it was equipped comparatively -- smallness -- it should also have the video-signal record playback section which performs actuation which reproduces a video signal from the actuation which records the magnetic tape held in the tape cassette which has a dimension as a record medium, and the record medium with which the video signal was recorded And in drawing 2 , the tooth-back side of an example of the image pick-up equipment with the image display section

which the front-face side of an example of the image pick-up equipment with image display concerning this invention is shown, and is applied to this invention in drawing 3 is shown.

[0015] The optical system 11 which changes including a lens, a diaphragm, a filter, etc. is turned ahead, and is allotted to the front-face side of the equipment shown in drawing 2, and the image pick-up section 12 is allotted immediately after optical system 11. A solid state image sensor with the image pick-up side formation section which the charge transfer section by CCD which transmits the signal charge obtained by the pixel and each pixel of a large number which perform photo electric conversion is allotted, and changes is used, the image pick-up section 12 is constituted, the image pick-up side formation section is turned ahead, and it is projected in the image for [by the side of the front face formed through optical system 11] an image pick-up. And optical system 11 and the image pick-up section 12 form the front-face side image pick-up means.

[0016] Near the optical system 11, front end section 13F of an optical finder have faced outside. An optical finder penetrates equipment from the front-face side to a tooth-back side, and the back end section shall have faced it outside at the tooth-back side of equipment, and it is ****(ed) by the user of equipment from a back end section side. That is, equipment is usually used, making it into the condition that the tooth-back side is made to counter by the user.

[0017] Moreover, the closing motion section 14 for cassette attachment and detachment you are made to open and close in case it equips with the small tape cassette which held the magnetic tape in equipment, or in case it is made to secede from the inside of equipment is formed in the slanting lower part of front end section 13F of optical system 11 and an optical finder. Furthermore, above the closing motion section 14 for cassette attachment and detachment, various kinds of control units 15A, 15B, and 15C etc. shall be allotted, and these control units 15A, 15B, and 15C etc. shall be easily operated above by the basis on which the user of equipment held the whole equipment single hand.

[0018] On the other hand, optical system 11 and the optical system 21 which changes including a lens, a diaphragm, a filter, etc. similarly are turned back, and is allotted to the tooth-back side of the equipment shown in drawing 3 , and the image pick-up section 22 is allotted immediately after optical system 21. A solid state image sensor with the image pick-up side formation section which the charge transfer section by CCD which transmits the signal charge from which the image pick-up section 22 was also obtained by the pixel and each pixel of a large number which perform photo electric conversion is allotted, and changes is used, and it is constituted. The image pick-up side formation section is turned back, and it is projected in the image for [for / by the side of the tooth back formed through optical system 21 / an image pick-up / including the user of

equipment] an image pick-up. and optical system 21 and the image pick-up section 22 -- a tooth-back side image pick-up means -- if it puts in another way, the oneself side image pick-up means will be formed.

[0019] Back end section 13R of an optical finder which the front end section 13F should face outside in the slanting upper part of optical system 21 at the tooth-back side of equipment has faced outside. The perimeter part of back end section 13R of an optical finder shall be made as [perform / **** from the back end section 13R side / the user of equipment / easily].

[0020] Moreover, under the optical system 21, the image display section 23 is turned back and allotted. This image display section 23 is made into the thing of the flat-surface mold which liquid crystal was used and was constituted. A front-face side image pick-up means The image pick-up output signal acquired from the image which the video signal based on the image pick-up output signal acquired from the image pick-up section 12 to form expresses, the image which the video signal based on the image pick-up output signal acquired from the image pick-up section 22 which forms a tooth-back side image pick-up means expresses, and the image pick-up section 12 which forms a front-face side image pick-up means, and a tooth-back side image pick-up means The image which the video signal based on both with the image pick-up output signal acquired from the image pick-up section 22 to form expresses is alternatively

indicated by playback.

[0021] Furthermore, control unit 15D shall be allotted to the side of optical system 21, and this control unit 15D shall also be easily operated in it by the basis on which the user of equipment held the whole equipment single hand.

[0022] Drawing 1 shows the example of a configuration of the important section of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention the appearance was indicated to be in drawing 2 and drawing 3. the image pick-up section 12 which a solid state image sensor with the image pick-up side formation section on which the image for [by the side of the front face formed through optical system 11] an image pick-up is projected in the example of a configuration of drawing 1 is used, and is constituted -- and A common driving signal is supplied to each of the image pick-up section 22 which a solid state image sensor with the image pick-up side formation section on which the image for [by the side of the tooth back formed through optical system 21] an image pick-up is projected is used, and is constituted from the driving signal formation section 30.

[0023] Each of the solid state image sensor which constitutes the solid state image sensor and the image pick-up section 22 which constitute the image pick-up section 12 is made into the thing of for example, an INTARAIN transfer

mold, and the driving signal from the driving signal formation section 30 is supplied to the image pick-up side formation section. The driving signal from the driving signal formation section 30 has the level transfer signal phiH1 of the perpendicular transfer signal phiV1 of read-out gate driving signal phiGO and phiGE, and two phases, phiV2, and 2 phase, and phiH2 contained.

[0024] The driving signal formation section 30 Perpendicular direction clock signal valve flow coefficient from the timing signal formation section 31, the horizontal clock signal CH, And the read-out command signals CO and CE are supplied, and read-out gate driving signal phiGO and phiGE are formed according to the read-out command signals CO and CE, respectively. Moreover, while forming the perpendicular transfer signal phiV1 of two phases, and phiV2 based on perpendicular direction clock signal valve flow coefficient, the level transfer signal phiH1 of two phases and phiH2 are formed based on the horizontal clock signal CH. and the driving signal formation section 30 -- read-out gate driving signal phiGO, the perpendicular transfer signal phiV1, and phiV2 -- and The read-out command signal CO is embraced in the level transfer signal phiH1 and phiH2. Again Each image pick-up side formation section of the solid state image sensor which constitutes the solid state image sensor and the image pick-up section 22 which constitute the image pick-up section 12 for read-out gate driving signal phiGE, the perpendicular transfer signal phiV1, phiV2, the

level transfer signal phiH1, and phiH2 according to the read-out command signal CE, respectively is supplied.

[0025] When setting to operating state in the image pick-up section 12 according to the control signal CIF supplied through control terminal 12A, read-out gate driving signal phiGO from the image pick-up side formation section of the solid state image sensor which constitutes it, the perpendicular transfer signal phiV1, and phiV2 -- and While the image pick-up output signal IPF for an odd field each period of a video signal is acquired according to the level transfer signal phiH1 and phiH2 According to read-out gate driving signal phiGE, the perpendicular transfer signal phiV1, phiV2, the level transfer signal phiH1, and phiH2, the image pick-up output signal IPF for an even field each period of a video signal is acquired. Moreover, when setting to operating state in the image pick-up section 22 similarly according to the control signal CIR supplied through control terminal 22A, read-out gate driving signal phiGO from the image pick-up side formation section of the solid state image sensor which constitutes it, the perpendicular transfer signal phiV1, and phiV2 -- and While the image pick-up output signal IPR for an odd field each period of a video signal is acquired according to the level transfer signal phiH1 and phiH2 According to read-out gate driving signal phiGE, the perpendicular transfer signal phiV1, phiV2, the level transfer signal phiH1, and phiH2, the image pick-up output signal IPR for an even field each

period of a video signal is acquired.

[0026] Vertical Synchronizing signal SV and Horizontal Synchronizing signal SH from the synchronizing signal generating section 32 are supplied to the timing signal formation section 31. And the timing signal formation section 31 forms the read-out command signals CO and CE as a thing corresponding to the odd number field period of a video signal, and the even number field period of a video signal, respectively, and supplies them to the driving signal formation section 30 while it forms perpendicular direction clock signal valve flow coefficient based on Vertical Synchronizing signal SV and forms the horizontal clock signal CH based on Horizontal Synchronizing signal SH.

[0027] The image pick-up output signal IPF acquired in the image pick-up section 12 is supplied to a sampling hold and the automatic-gain-control section (S/H-AGC section) 33. In the S/H-AGC section 33, the level sampling for every predetermined short period to the image pick-up output signal IPF and maintenance of sample level, and the level control about the held sample level are performed, the sampling hold output signal SIF is acquired, and it is supplied to each of signal selection / composition section 35 and signal selection / composition section 36.

[0028] Similarly, the image pick-up output signal IPR acquired in the image pick-up section 22 is supplied to the S/H-AGC section 34. In the S/H-AGC

section 34, the level sampling for every predetermined short period to the image pick-up output signal IPR and maintenance of sample level, and the level control about the held sample level are performed, the sampling hold output signal SIR is acquired, and it is supplied to each of signal selection / composition section 35 and signal selection / composition section 36.

[0029] In signal selection / composition section 35, the control signal CVR supplied through control terminal 35A is followed. The sampling hold output signal SIF from the S/H-AGC section 33 is chosen. The condition that the luminance signal RY and carrier chrominance signal RC which form the video signal based on the sampling hold output signal SIF are acquired, and the sampling hold output signal SIR from the S/H-AGC section 34 are chosen. The condition that the luminance signal RY and carrier chrominance signal RC which form the video signal based on the sampling hold output signal SIR are acquired, And the condition that the luminance signal RY and carrier chrominance signal RC which form the synthetic video signal which the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR are compounded, and changes are acquired is taken alternatively. Therefore, signal selection / composition section 35 will form the video-signal formation section which performs the selection about the image pick-up output signal IPR or composition obtained from the image pick-up output

signal IPF acquired from the image pick-up section 12, and the image pick-up section 22, and acquires a video signal.

[0030] And the luminance signal RY and carrier chrominance signal RC which are acquired from signal selection / composition section 35 are supplied to the processing section 37 for video-signal record. Various kinds of processings for record to the magnetic tape which includes the frequency modulation processing to a luminance signal RY etc. in the processing section 37 for video-signal record, And while various kinds of processings for record to a magnetic tape including the frequency-conversion processing to a carrier chrominance signal RC etc. are made, the luminance signal RY with which processing for record was performed, and the carrier chrominance signal RC with which processing for record was performed are compounded, and the video signal SVR for record is formed.

[0031] The video signal SVR for record acquired from the processing section 37 for video-signal record is supplied to selection contact 41b in record/playback selecting switch 41 through the record amplifier 39 while it is supplied to selection contact 40b in record/playback selecting switch 40 through the record amplifier 38. If it is in record/playback selecting switch 40, the condition that traveling contact 40a is connected to selection contact 40b is taken. The condition of supplying the video signal SVR for record which passed through the

record amplifier 38 to rotating magnetic head 42A of the rotating magnetic heads 42A and 42B of a pair is taken. Moreover, if it is in record/playback selecting switch 41, the condition that traveling contact 41a is connected to selection contact 41b is taken, and the condition of supplying the video signal SVR for record which passed through the record amplifier 39 to rotating magnetic head 42B of the rotating magnetic heads 42A and 42B of a pair is taken.

[0032] The rotating magnetic heads 42A and 42B of a pair constitute the record playback device section 43 with the drive system to magnetic tape TP held in the tape cassette which is a record medium. The rotating magnetic heads 42A and 42B of a pair by the basis which the record playback device section 43 sets to operating state and, respectively It shall be scanned as the locus which inclined magnetic tape TP made into a run state to the transit direction is drawn. By that cause The video signal SVR for record supplied to rotating magnetic head 42B through the video signal SVR for record supplied to rotating magnetic head 42A through record/playback selecting switch 40 and record/playback selecting switch 41 It is recorded on magnetic tape TP by turns with many dip log trucks.

[0033] Moreover, the record playback device section 43 is made into operating state by the basis by which it should already be recorded [TP / magnetic tape] in the video signal, and while record/playback selecting switch 40 is made into the condition of connecting with selection contact 40c, traveling contact 40a

When record/playback selecting switch 41 is made into the condition of connecting with selection contact 41c for traveling contact 41a, Read about the video signal recorded on magnetic tape TP by each of the rotating magnetic heads 42A and 42B of a pair is performed. While the video signal read by rotating magnetic head 42A is drawn through selection contact 40c of record/playback selecting switch 40 as reading video-signal SVR' The video signal read by rotating magnetic head 42B is also drawn through selection contact 41c of record/playback selecting switch 41 as reading video-signal SVR'.

[0034] Reading video-signal SVR' from selection contact 40c of record/playback selecting switch 40 is supplied to a switch 47 through the playback amplifier 45, and reading video-signal SVR' from selection contact 41c of record/playback selecting switch 41 is supplied to a switch 47 through the playback amplifier 46.

When reading video-signal SVR' is obtained from the playback amplifier 46, it takes it out, and a switch 47 forms continuous reading video-signal SVR', and supplies it to the video-signal regeneration section 48 while it takes it out, when reading video-signal SVR' is obtained from the playback amplifier 45.

[0035] In the video-signal regeneration section 48, various kinds of regeneration including separation with the luminance-signal component and carrier chrominance signal component to reading video-signal SVR' which continued from the switch 47, the frequency recovery about a luminance-signal component,

frequency conversion about a carrier chrominance signal component, etc. is made, and the playback luminance signal BY and the playback carrier chrominance signal BC which form a playback video signal are acquired. And the playback luminance signal BY and the playback carrier chrominance signal BC which are acquired from the video-signal regeneration section 48 are supplied to the signal formation section 51 for a display while they are drawn by the playback video-signal output terminals 49 and 50, respectively.

[0036] On the other hand in signal selection / composition section 36, the control signal CVD supplied through control terminal 36A is followed. The sampling hold output signal SIF from the S/H-AGC section 33 is chosen. The condition that the luminance signal DY and carrier chrominance signal DC which form the video signal based on the sampling hold output signal SIF are acquired, and the sampling hold output signal SIR from the S/H-AGC section 34 are chosen. The condition that the luminance signal DY and carrier chrominance signal DC which form the video signal based on the sampling hold output signal SIR are acquired, And the condition that the luminance signal DY and carrier chrominance signal DC which form the synthetic video signal which the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR are compounded, and changes are acquired is taken alternatively. Therefore, signal selection / composition section 36 will also form

the video-signal formation section which performs the selection about the image pick-up output signal IPR or composition obtained from the image pick-up output signal IPF acquired from the image pick-up section 12, and the image pick-up section 22, and acquires a video signal.

[0037] And the luminance signal DY and carrier chrominance signal DC which are acquired from signal selection / composition section 36 are supplied to the signal formation section 51 for a display. In the signal formation section 51 for a display, the control signal CVO supplied through control terminal 51A is followed.

The luminance signal DY from signal selection / composition section 36 And the video signal for a display based on a carrier chrominance signal DC the condition that the red primary signal R which forms the condition that the red primary signal R to form, the green primary signal G, and the blue primary signal B are acquired, the playback luminance signal BY from the video-signal regeneration section 48, and the video signal for a display based on the playback carrier chrominance signal BC, the green primary signal G, and the blue primary signal B are acquired -- and The condition that the red primary signal R which forms the video signal for a display which the video signal for a display based on the video signal for a display, the playback luminance signal BY, and the playback carrier chrominance signal BC based on a luminance signal DY and a carrier chrominance signal DC is compounded, and changes,

the green primary signal G, and the blue primary signal B are acquired is taken alternatively.

[0038] The red primary signal R acquired from the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are supplied to the image display section 23. The image which the video signal for a display which the red primary signal R acquired from the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B form in the image display section 23 by that cause expresses, Therefore, the image which the video signal which the playback luminance signal BY from an image and the video-signal regeneration section 48 and the playback carrier chrominance signal BC which the video signal which the luminance signal DY and carrier chrominance signal DC from signal selection / composition section 36 form expresses form expresses, Or a playback indication of that by which the image which the video signal which the image, the playback luminance signal BY, and the playback carrier chrominance signal BC which the video signal which a luminance signal DY and a carrier chrominance signal DC form expresses form expresses was compounded is given.

[0039] Furthermore, if it is in the example of a configuration shown in drawing 1 , the operation block 54 which has other control units contained, and the system control section 55 to which various kinds of control output signals of an operation

block 54 are supplied are formed in control unit 15A - 15D pan. From an operation block 54, by carrying out selection actuation of other control units at control unit 15A - 15D pan The tooth-back side image pick-up by the condition that the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means is performed, the optical system 21 which forms a tooth-back side image pick-up means, and the image pick-up section 22, namely, the condition that a oneself side image pick-up is performed -- or A front-face side image pick-up means The optical system 11 to form And the front side image pick-up by the image pick-up section 12 and a tooth-back side image pick-up means The optical system 21 to form And the condition that the oneself side image pick-up by the image pick-up section 22 is performed to coincidence By the basis in the condition that the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form the image pick-up state control signal XW to direct and a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence The motion control of signal selection / composition sections 35 and 36 The operating state control signal XX for making the synthetic state control signals XR and XD, record/playback selecting switches 40 and 41, the record playback device section 43, and the

switch 47 for carrying out, respectively take record operating state or playback operating state, and the motion control of the signal formation section 51 for a display Various kinds of control output signals in which the signal formation state control signal XZ for carrying out etc. is included are sent out to the system control section 55.

[0040] The system control section 55 forms the control section of operation carry out the control about the control about the operating state of the image pick-up section 12 and the image pick-up section 22, the signal selection actuation in each of signal selection / composition sections 35 and 36 which form the video-signal formation section, or signal composition actuation, the control about the operating state of record/playback selecting switches 40 and 41, the control about the operating state of the record playback device section 43, the control about the operating state of a switch 47, etc.

[0041] And when, as for the system control section 55, the image pick-up state control signal XW which directs the condition that the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means is performed is supplied from an operation block 54, While supplying the control signal CIF which makes the image pick-up section 12 take operating state to control terminal 12A in the image pick-up section 12 The control signal CVR which makes it take the condition that the luminance

signal RY and carrier chrominance signal RC which form the video signal based on the sampling hold output signal SIF from the S/H-AGC section 33 in signal selection / composition section 35 are acquired To control terminal 35A in signal selection / composition section 35, moreover, the control signal CVD which makes it take the condition that the luminance signal DY and carrier chrominance signal DC which form the video signal based on the sampling hold output signal SIF from the S/H-AGC section 33 in signal selection / composition section 36 are acquired Control terminal 36A in signal selection / composition section 36 is supplied, respectively. Further The control signal CVO which makes it take the condition that the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC from signal selection / composition section 36 in the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are acquired Control terminal 51A of the signal formation section 51 for a display is supplied.

[0042] Thereby, the image pick-up output signal IPF about the candidate for an image pick-up by the side of the front face of equipment is acquired from the image pick-up section 12, and while the luminance signal RY and carrier chrominance signal RC which form a video signal from signal selection / composition section 35 are acquired based on the image pick-up output signal

IPF, the luminance signal DY and carrier chrominance signal DC which form a video signal are acquired from signal selection / composition section 36. Moreover, the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC which are then acquired from signal selection / composition section 36 from the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are supplied to the image display section 23. Therefore, in this case, the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means is performed, it carries out as [show / in drawing 4] in the image display section 23, and a playback indication of the image PF for [by the side of the front face of equipment] an image pick-up is given.

[0043] When the operating state control signal XX for making record/playback selecting switches 40 and 41, the record playback device section 43, and a switch 47 take record operating state is supplied to the system control section 55 from an operation block 54 by such basis, and the system control section 55 While making it take the condition that traveling contact 40a is connected to record/playback selecting switch 40 at selection contact 40b The control signal CW which makes it take the condition that traveling contact 41a is connected to record/playback selecting switch 41 at selection contact 41b is supplied to each

of record/playback selecting switches 40 and 41, and the control signal CT which makes it operating state at the record playback device section 43 is supplied further. It considers as the condition that the luminance signal RY and carrier chrominance signal RC which form the video signal acquired from signal selection / composition section 35 based on the image pick-up output signal IPF from the image pick-up section 12 by that cause are recorded on magnetic tape TP as a video signal SVR for record.

[0044] In this case, the control signal CVO supplied to control terminal 51A of the system control section 55 to the signal formation section 51 for a display While making it take the condition that the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC from signal selection / composition section 36 in the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are acquired It is made for the red primary signal R acquired, the green primary signal G, and the blue primary signal B to also have the text of an "image transcription" expressed. In the image display section 23, it carries out as [show / in drawing 5] by that cause, and, in addition to the image PF for [by the side of the front face of equipment] an image pick-up, the alphabetic character "image transcription" is displayed.

[0045] Moreover, when, as for the system control section 55, the image pick-up

state control signal XW which directs the condition that the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form a tooth-back side image pick-up means is performed is supplied from an operation block 54, While supplying the control signal CIR which makes the image pick-up section 22 take operating state to control terminal 22A in the image pick-up section 22 The control signal CVR which makes it take the condition that the luminance signal RY and carrier chrominance signal RC which form the video signal based on the sampling hold output signal SIR from the S/H-AGC section 34 in signal selection / composition section 35 are acquired To control terminal 35A in signal selection / composition section 35, moreover, the control signal CVD which makes it take the condition that the luminance signal DY and carrier chrominance signal DC which form the video signal based on the sampling hold output signal SIR from the S/H-AGC section 34 in signal selection / composition section 36 are acquired Control terminal 36A in signal selection / composition section 36 is supplied, respectively. Further The control signal CVO which makes it take the condition that the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC from signal selection / composition section 36 in the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are acquired Control terminal 51A of the signal formation section 51 for a

display is supplied.

[0046] While the image pick-up output signal IPR about the candidate for an image pick-up including the user of equipment for [by the side of the tooth back of equipment] an image pick-up is acquired from the image pick-up section 22 by that cause and the luminance signal RY and carrier chrominance signal RC which form a video signal are acquired from signal selection / composition section 35 based on the image pick-up output signal IPR, the luminance signal DY and carrier chrominance signal DC which form a video signal are acquired from signal selection / composition section 36. Moreover, the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC which are then acquired from signal selection / composition section 36 from the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are supplied to the image display section 23. Therefore, in this case, the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form a tooth-back side image pick-up means is performed, it carries out as [show / in drawing 6] in the image display section 23, and a playback indication of the image PR for [including the user of equipment] an image pick-up is given.

[0047] When the operating state control signal XX for making record/playback selecting switches 40 and 41, the record playback device section 43, and a

switch 47 take record operating state is supplied to the system control section 55 from an operation block 54 by such basis, and the system control section 55 While making it take the condition that traveling contact 40a is connected to record/playback selecting switch 40 at selection contact 40b The control signal CW which makes it take the condition that traveling contact 41a is connected to record/playback selecting switch 41 at selection contact 41b is supplied to each of record/playback selecting switches 40 and 41, and the control signal CT which makes it operating state at the record playback device section 43 is supplied further. It considers as the condition that the luminance signal RY and carrier chrominance signal RC of the image pick-up section 22 which form the video signal which is based image pick-up output signal IPR, and is acquired from signal selection / composition section 35 are recorded on magnetic tape TP as a video signal SVR for record by that cause.

[0048] In this case, the control signal CVO supplied to control terminal 51A of the system control section 55 to the signal formation section 51 for a display While making it take the condition that the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC from signal selection / composition section 36 in the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are acquired It is made for the red primary signal R acquired, the green

primary signal G, and the blue primary signal B to also have the text of an "image transcription" expressed. In the image display section 23, it carries out as [show / in drawing 7] by that cause, and, in addition to the image PR for [including the user of equipment] an image pick-up, the alphabetic character "image transcription" is displayed.

[0049] On the other hand, the system control section 55 from an operation block 54 The image pick-up state control signal XW which directs the condition that the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence is supplied. To it, in addition, when the synthetic state control signals XR and XD for performing motion control of signal selection / composition sections 35 and 36, respectively are supplied, While supplying the control signal CIF which makes the image pick-up section 12 take operating state to control terminal 12A in the image pick-up section 12 The control signal CIR which makes the image pick-up section 22 take operating state is supplied to control terminal 22A in the image pick-up section 22. Moreover, the control signal CVR for making synthetic actuation with the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR according to the

synthetic state control signal XR perform in signal selection / composition section

35 While supplying control terminal 35A in signal selection / composition section

35 The control signal CVD for making synthetic actuation with the video signal

based on the sampling hold output signal SIF and the video signal based on the

sampling hold output signal SIR according to the synthetic state control signal

XD perform in signal selection / composition section 36 Control terminal 36A in

signal selection / composition section 36 is supplied. Furthermore, the system

control section 55 supplies the control signal CVO which makes it take the

condition that the red primary signal R which forms the video signal for a display

based on the luminance signal DY and carrier chrominance signal DC from

signal selection / composition section 36 in the signal formation section 51 for a

display, the green primary signal G, and the blue primary signal B are acquired

to control terminal 51A of the signal formation section 51 for a display.

[0050] By that cause, while the image pick-up output signal IPF about the

candidate for an image pick-up by the side of the front face of equipment is

acquired from the image pick-up section 12 The image pick-up output signal IPR

about the candidate for an image pick-up including the user of equipment is

acquired from the image pick-up section 22. It is based on both of the image

pick-up output signals IPF and IPR. While the luminance signal RY and carrier

chrominance signal RC which form the synthetic video signal which the video

signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR are compounded, and consists of signal selection / composition section 35 are acquired. The luminance signal DY and carrier chrominance signal DC which form the synthetic video signal which the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR are compounded, and consists also of signal selection / composition section 36 are acquired.

[0051] Moreover, the red primary signal R which forms the video signal for a display based on the luminance signal DY and carrier chrominance signal DC which are then acquired from signal selection / composition section 36 from the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are supplied to the image display section 23. Therefore, in this case, the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence, and a playback indication of the image for [by the side of the front face of equipment] an image pick-up and the image for [including the user of equipment] an image pick-up is compounded and given in the image-display section 23. The synthetic mode of the image for [by the side of the front face of

the equipment in this case] an image pick-up and the image for [including the user of equipment] an image pick-up According to the synthetic state control signal XD supplied to the system control section 55, it is set from an operation block 54. For example, as shown in drawing 8 , 2 ****s of the display screens in the image display section 23 are carried out. What the image PR for [including the user of equipment] an image pick-up is displayed on another side as while the image PF for [by the side of the front face of equipment] an image pick-up is displayed on one side of them, Or as shown in drawing 9 , it shall be taken in the format of the so-called picture Inn picture that some images PF for [by the side of the front face of equipment] an image pick-up are replaced with the image PR for [including the user of equipment] an image pick-up, and it is displayed.

[0052] When the operating state control signal XX for making record/playback selecting switches 40 and 41, the record playback device section 43, and a switch 47 take record operating state is supplied to the system control section 55 from an operation block 54 by such basis, and the system control section 55 While making it take the condition that traveling contact 40a is connected to record/playback selecting switch 40 at selection contact 40b The control signal CW which makes it take the condition that traveling contact 41a is connected to record/playback selecting switch 41 at selection contact 41b is supplied to each of record/playback selecting switches 40 and 41, and the control signal CT which

makes it operating state at the record playback device section 43 is supplied further. It is considered as the condition that the luminance signal RY and the carrier chrominance signal RC which form the synthetic video signal which the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR which are acquired from signal selection / composition section 35 are compounded by that cause based on both image pick-up output signal IPF from the image pick-up section 12 and image pick-up output signal IPR from the image pick-up section 22, and changes are recorded on magnetic tape TP as a video signal SVR for record.

[0053] Thus, face forming the luminance signal RY and carrier chrominance signal RC which will be recorded on magnetic tape TP. The synthetic mode of the video signal based on the sampling hold output signal SIF and the video signal based on the sampling hold output signal SIR The luminance signal RY and carrier chrominance signal RC which are defined according to the synthetic state control signal XR supplied to the system control section 55 from an operation block 54, and are acquired from signal selection / composition section 35 It shall differ from what is the same as that of the luminance signal DY and carrier chrominance signal DC which are then acquired from signal selection / composition section 36 or the luminance signal DY then acquired from signal selection / composition section 36, and a carrier chrominance signal DC.

[0054] The condition that the oneself side image pick-up by the condition that the front side image pick-up by the optical system 11 and the image pick-up section 12 which form the front-face side image pick-up means which are taken by carrying out like **** is performed, the optical system 21 which forms a tooth-back side image pick-up means, and the image pick-up section 22 is performed, And a change mutual [in the condition that the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence] By the basis by which actuation of reversing the location by the side of the front face in equipment and a tooth back etc. is made unnecessary, it is carried out to control unit 15A contained in an operation block 54 - 15D pan quickly and exactly by making the selection actuation about other control units.

[0055] Moreover, the condition that the oneself side image pick-up by the condition that the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means is performed, the optical system 21 which forms a tooth-back side image pick-up means, and the image pick-up section 22 is performed, and in the case of a change mutual [in the condition that the oneself side image pick-up by the

optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence] Although the change of an image by which it is indicated by playback in the image display section 23 is made, techniques, such as wipe of the so-called fade-in, fade-out, a longitudinal direction, or a lengthwise direction, are also applicable in the change of an image by which it is indicated by playback in this image display section 23.

[0056] Furthermore, the condition that the oneself side image pick-up by the condition that the front side image pick-up by the optical system 11 and the image pick-up section 12 in which the system control section 55 forms a front-face side image pick-up means is performed, the optical system 21 which forms a tooth-back side image pick-up means, and the image pick-up section 22 is performed, By and the basis by which either of the conditions that the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means is performed to coincidence is taken From an operation block 54, the operating state control signal XX for making record/playback selecting switches 40 and 41, the record playback device

section 43, and a switch 47 take playback operating state is supplied. it -- in addition, while making it take the condition that traveling contact 40a is connected to record/playback selecting switch 40 at selection contact 40c, when the signal formation state control signal XZ for performing motion control of the signal formation section 51 for a display is supplied The control signal CW which makes it take the condition that traveling contact 41a is connected to record/playback selecting switch 41 at selection contact 41c The control signal CT which supplies each of record/playback selecting switches 40 and 41, and makes it operating state at the record playback device section 43 is supplied, and the control signal CS which operates it on a switch 47 is supplied further.

[0057] Read about the video signal recorded on magnetic tape TP by each of the rotating magnetic heads 42A and 42B of a pair is performed by that cause. While the video signal read by rotating magnetic head 42A is drawn through selection contact 40c of record/playback selecting switch 40 as reading video-signal SVR' The video signal read by rotating magnetic head 42B is also drawn through selection contact 41c of record/playback selecting switch 41 as reading video-signal SVR', and the playback luminance signal BY and the playback carrier chrominance signal BC are acquired from the video-signal regeneration section 48 based on it.

[0058] Moreover, the system control section 55 embraces the signal formation

state control signal XZ. In the signal formation section 51 for a display The luminance signal DY from signal selection / composition section 36 And the video signal for a display based on a carrier chrominance signal DC The condition that the red primary signal R which forms the condition that the red primary signal R to form, the green primary signal G, and the blue primary signal B are acquired, the playback luminance signal BY from the video-signal regeneration section 48, and the video signal for a display based on the playback carrier chrominance signal BC, the green primary signal G, and the blue primary signal B are acquired, or The condition that the red primary signal R which forms the video signal for a display which the video signal for a display based on the video signal for a display, the playback luminance signal BY, and the playback carrier chrominance signal BC based on a luminance signal DY and a carrier chrominance signal DC is compounded, and changes, the green primary signal G, and the blue primary signal B are acquired The control signal CVO it is made to take is supplied to control terminal 51A of the signal formation section 51 for a display.

[0059] Consequently, if it is in the image display section 23 to which the red primary signal R, the green primary signal G, and the blue primary signal B from the signal formation section 51 for a display are supplied The condition that a playback indication of the image for [by the side of the front face of the

equipment which the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means is performed according to the signal formation state control signal XZ, and is obtained] an image pick-up is given, The condition that a playback indication of the image for [including the user of the equipment which the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form a tooth-back side image pick-up means is performed, and is obtained] an image pick-up is given, A front-face side image pick-up means The condition that a playback indication of the image for [by the side of the front face of the equipment which the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 to form and a tooth-back side image pick-up means is performed to coincidence, and is obtained] an image pick-up, and the image for [including the user of equipment] an image pick-up is compounded and given, Or the condition that a playback indication of the image based on the playback luminance signal BY from the image and the video-signal regeneration section 48 for an image pick-up and the playback carrier chrominance signal BC including the image for [by the side of the front face of equipment] an image pick-up or the user of equipment is compounded and given is taken.

[0060] The synthetic mode of the image in the basis in the condition that a playback indication of the image based on the playback luminance signal BY from the image and the video-signal regeneration section 48 for an image pick-up and the playback carrier chrominance signal BC including the image for [by the side of the front face of equipment] an image pick-up or the user of equipment is compounded and given According to the signal formation state control signal XZ supplied to the system control section 55, it is set from an operation block 54. For example, as shown in drawing 10 , some images PB based on the playback luminance signal BY from the video-signal regeneration section 48 and the playback carrier chrominance signal BC are replaced with the image PR for [including the user of equipment] an image pick-up, and it is displayed. It shall be taken in the so-called format of a picture Inn picture.

[0061] in addition, any of the oneself side image pick-up by the optical system 21 and the image pick-up section 22 which form the front side image pick-up by the optical system 11 and the image pick-up section 12 which form a front-face side image pick-up means, and a tooth-back side image pick-up means -- although -- by the basis which is not performed The operating state control signal XX for making record/playback selecting switches 40 and 41, the record playback device section 43, and a switch 47 take playback operating state is supplied to the system control section 55 from an operation block 54. it -- in addition, when

the signal formation state control signal XZ for performing motion control of the signal formation section 51 for a display is supplied. While the system control section 55 makes it take the condition that traveling contact 40a is connected to record/playback selecting switch 40 at selection contact 40c. The control signal CW which makes it take the condition that traveling contact 41a is connected to record/playback selecting switch 41 at selection contact 41c. The control signal CT which supplies each of record/playback selecting switches 40 and 41, and makes it operating state at the record playback device section 43 is supplied, and the control signal CS which operates it on a switch 47 is supplied further.

[0062] Read about the video signal recorded on magnetic tape TP by each of the rotating magnetic heads 42A and 42B of a pair is performed by that cause. While the video signal read by rotating magnetic head 42A is drawn through selection contact 40c of record/playback selecting switch 40 as reading video-signal SVR'. The video signal read by rotating magnetic head 42B is also drawn through selection contact 41c of record/playback selecting switch 41 as reading video-signal SVR', and the playback luminance signal BY and the playback carrier chrominance signal BC are acquired from the video-signal regeneration section 48 based on it.

[0063] Moreover, the system control section 55 supplies the control signal CVO which makes it take the condition that the red primary signal R which forms the

playback luminance signal BY from the video-signal regeneration section 48 and the video signal for a display based on the playback carrier chrominance signal BC in the signal formation section 51 for a display, the green primary signal G, and the blue primary signal B are acquired to control terminal 51A of the signal formation section 51 for a display. Consequently, in the image display section 23 to which the red primary signal R, the green primary signal G, and the blue primary signal B from the signal formation section 51 for a display are supplied, a playback indication of the image based on the playback luminance signal BY from the video-signal regeneration section 48 and the playback carrier chrominance signal BC is given.

[0064] Drawing 11 shows other examples of a configuration about the important section of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention the appearance was indicated to be in drawing 2 and drawing 3. The most is made with what was constituted like the example of a configuration of drawing 1, in drawing 11, a sign with as common each part shown in drawing 1, part corresponding to each signal, and signal as drawing 1 is attached, the example of a configuration shown in drawing 11 is shown, and the duplication explanation about them is omitted.

[0065] drawing 11 -- being shown -- having -- a configuration -- an example -- it is

-- if -- a driving signal -- formation -- the section -- 30 -- and -- a timing signal -- formation -- the section -- 31 -- in addition -- a driving signal -- formation -- the section -- 30 -- being the same -- a thing -- ** -- carrying out -- having -- a driving signal -- formation -- the section -- 30 -- ' -- and -- a timing signal -- formation -- the section -- 31 -- being the same -- a thing -- ** -- carrying out -- having -- a timing signal -- formation -- the section -- 31 -- ' -- preparing -- having -- **** .

Vertical Synchronizing signal SV and Horizontal Synchronizing signal SH from the synchronizing signal generating section 32 are supplied to timing signal formation section 31' as the timing signal formation section 31 and a common thing.

[0066] Timing signal formation section 31' sends out perpendicular direction clock signal valve flow coefficient' which carries out considerable to perpendicular direction clock signal valve flow coefficient which the timing signal formation section 31 sends out, the horizontal clock signal CH, and the read-out command signals CO and CE, respectively, horizontal clock signal CH', read-out command signal CO', and CE', and supplies them to driving signal formation section 30'. the perpendicular transfer signal phiV1 of read-out gate driving signal phiGO to which the driving signal formation section 30 sends out driving signal formation section 30' and phiGE, and two phases, and phiV2 -- and two -- phases -- level -- a transfer -- a signal -- phi -- H -- one -- and -- phi -- H -- two --

respectively -- considerable -- carrying out -- read-out -- the gate -- a driving signal -- phi -- GO -- ' -- and -- phi -- GE -- ' -- two -- a phase -- perpendicular -- a transfer -- a signal -- phi -- V -- one -- ' -- and -- phi -- V -- two -- ' -- and -- two -- a phase -- level -- a transfer -- a signal -- phi -- H -- one -- ' -- and -- phi -- H -- two -- ' -- sending out .

[0067] and in the case of the example of a configuration shown in drawing 11 the perpendicular transfer signal phiV1 of read-out gate driving signal phiGO from the driving signal formation section 30 and phiGE, and two phases, and phiV2 -- and The level transfer signal phiH1 of two phases and phiH2 are supplied to the image pick-up side formation section of the solid state image sensor which constitutes the image pick-up section 12. moreover -- a driving signal -- formation -- the section -- 30 -- ' -- from -- read-out -- the gate -- a driving signal -- phi -- GO -- ' -- and -- phi -- GE -- ' -- two -- a phase -- perpendicular -- a transfer -- a signal -- phi -- V -- one -- ' -- and -- phi -- V -- two -- ' -- and -- two -- a phase -- level -- a transfer -- a signal -- phi -- H -- one -- ' -- and -- phi -- H -- two -- ' -- an image pick-up -- the section -- 22 -- constituting -- a solid state image sensor -- an image pick-up -- a field -- formation -- the section -- supplying -- having . That is, the image pick-up section 12 which forms a front-face side image pick-up means with optical system 11, and the image pick-up section 22 which forms a tooth-back side image pick-up means with optical system 21 drive by the driving

means according to individual.

[0068] When this sets to operating state in the image pick-up section 12 according to the control signal CIF supplied through control terminal 12A, read-out gate driving signal phiGO from the image pick-up side formation section of the solid state image sensor which constitutes it, the perpendicular transfer signal phiV1, and phiV2 -- and While the image pick-up output signal IPF for an odd field each period of a video signal is acquired according to the level transfer signal phiH1 and phiH2 According to read-out gate driving signal phiGE, the perpendicular transfer signal phiV1, phiV2, the level transfer signal phiH1, and phiH2, the image pick-up output signal IPF for an even field each period of a video signal is acquired. Moreover, when setting to operating state in the image pick-up section 22 according to the control signal CIR supplied through control terminal 22A, read-out gate driving signal phiGO[from the image pick-up side formation section of the solid state image sensor which constitutes it], perpendicular transfer signal phiV1', and phiV2 -- ' -- And while the image pick-up output signal IPR for an odd field each period of a video signal is acquired according to level transfer signal phiH1' and phiH2' read-out -- the gate -- a driving signal -- phi -- GE -- ' -- perpendicular -- a transfer -- a signal -- phi -- V -- one -- ' -- and -- phi -- V -- two -- ' -- and -- level -- a transfer -- a signal -- phi -- H -- one -- ' -- and -- phi -- H -- two -- ' -- responding -- a video signal -- every --

even -- the field -- a period -- a part -- an image pick-up -- an output signal -- IPR
-- obtaining -- having .

[0069] Since other configurations and actuation are the same as that of the case of the example of a configuration of drawing 1 , the explanation about them is omitted. Since the image pick-up section 12 and the image pick-up section 22 drive by the driving means according to individual while the same operation effectiveness as the case of the example of a configuration of drawing 1 is acquired if it is in the example of a configuration shown in such drawing 11 , the advantage by which a setup in the condition that each of the image pick-up section 12 and the image pick-up section 22 drives on the basis of optimum conditions is made easy is acquired.

[0070] Drawing 12 shows the tooth-back side of the equipment which constitutes other examples of the image pick-up equipment with the image display section concerning this invention. The most is made with the example shown in drawing 2 and drawing 3 , and the thing constituted similarly, in drawing 12 , a sign with the as common part corresponding to each part shown in drawing 3 as drawing 3 is attached, the example a tooth-back side is indicated to be to drawing 12 is shown, and the duplication explanation about them is omitted.

[0071] If it was in the example a tooth-back side is indicated to be to drawing 12 , it should hold with the condition that the optical system 21 which changes

including the lens which has a tooth-back side image pick-up means formed, a diaphragm, a filter, etc., and the image pick-up section 22 made to be located immediately after that make the front end section of optical system 21 face outside in a tube-like object 60. The tube-like object 60 which held optical system 21 and the image pick-up section 22 shall be alternatively taken in the condition of it being made engaging with the engagement hole 61 prepared in the body of equipment, considering as the condition of making the front end section of optical system 21 facing back, and being held inside the body of equipment, and the condition that engagement to the engagement hole 61 is canceled and you are made to secede from the body of equipment. And electrical installation with the circuitry section [in / through a connecting cord 62 / in the image pick-up section 22 held in the tube-like object 60 / the interior of the body of equipment] is made.

[0072] That is, the image pick-up section 22 is the basis by which electrical installation with the circuitry section in the interior of the body of equipment was made through the connecting cord 62, and let the tube-like object 60 which held optical system 21 and the image pick-up section 22 be a removable thing to the body of equipment. A connecting cord 62 is rolled round in the body of equipment, when setting in the condition that the body of equipment was equipped with the tube-like object 60, and when a tube-like object 60 is made to

secede from the body of equipment, it is pulled out out of the body of equipment.

[0073] Thus, it considers as what also has the example [be / the same as that of the example of a configuration the configuration of the important section is indicated to be to drawing 1 / it] with which it is constituted and a tooth-back side is indicated to be to drawing 12 . And if it is in the example a tooth-back side is indicated to be to this drawing 12 , the tooth-back side image pick-up means formed of optical system 21 and the image pick-up section 22 can be arranged in the location isolated from the body of equipment, a front side image pick-up and a oneself side image pick-up can be performed, and the degree of freedom on use will be expanded.

[0074] In addition, in each above-mentioned example, although it is made to be performed in various kinds of control by actuation of the control units 15A-15D prepared in the body of equipment, and other control units, it can replace with all or a part of actuation of control units 15A-15D and other control units, and can also make as [perform / by remote-control actuation of a cable type or a wireless type / various kinds of control].

[0075]

[Effect of the Invention] If it is in the image pick-up equipment with the image display section concerning this invention so that clearly from the above explanation Without having the 1st image pick-up section and the 2nd image

pick-up section, and the transfer about a front-face side and a tooth-back side etc. requiring The image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired from the 1st image pick-up section. The image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired from the condition that the video signal based on the image pick-up output signal is formed, and the 2nd image pick-up section, and the condition that the video signal based on the image pick-up output signal is formed is chosen from it by the control section of operation. Therefore, a user reverses the front-face side of the equipment turned to the front candidate for an image pick-up, and it is dealt with towards a oneself side in behind. Or by being able to perform a front side image pick-up and a oneself side image pick-up, and moreover operating a control section of operation, without performing the handling which is made to reverse the front-face side of the equipment turned to its direction, and is turned to the front candidate for an image pick-up A change in the condition that a oneself side image pick-up is performed from the condition that a front side image pick-up is performed, and a change in the condition that a front side image pick-up is further performed from the condition that a oneself side image pick-up is performed can be performed very quickly.

[0076] Moreover, since the condition that the image pick-up output signal about the candidate for an image pick-up by the side of a tooth back is acquired from

the 2nd image pick-up section, and the video signal based on both the image pick-up output signal is formed is also chosen by control by the control section of operation while the image pick-up output signal about the candidate for an image pick-up by the side of a front face is acquired from the 1st image pick-up section, a user can also perform a front side image pick-up and a oneself side image pick-up to coincidence.

[0077] And the image which the video signal based on the image pick-up output signal acquired from the 1st image pick-up section expresses in the image display section, the image which the video signal based on the image pick-up output signal acquired from the 2nd image pick-up section expresses, And the playback display of the image which the video signal based on both image pick-up output signal acquired from the 1st image pick-up section and image pick-up output signal acquired from the 2nd image pick-up section expresses is performed alternatively. Therefore, a user can see alternatively the image which a front side image pick-up is made and is obtained, the image which a oneself side image pick-up is made and is obtained, and the image with which a front side image pick-up and a oneself side image pick-up are made by coincidence, and are obtained.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block connection diagram showing the example of a configuration of the important section of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention.

[Drawing 2] It is the front view showing the appearance of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention.

[Drawing 3] It is the rear view showing the appearance of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention.

[Drawing 4] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which

accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 5] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 6] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 7] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 8] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 9] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which

accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 10] It is the conceptual diagram with which explanation of the playback image obtained in the image display section with which the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention is equipped is presented.

[Drawing 11] It is the block connection diagram showing other examples of a configuration of the important section of the equipment which accomplishes an example of the image pick-up equipment with the image display section concerning this invention.

[Drawing 12] It is the rear view showing the appearance of the equipment which constitutes other examples of the image pick-up equipment with the image display section concerning this invention.

[Description of Notations]

11 21 Optical system

12 22 Image pick-up section

13F The front end section of an optical finder

13R The back end section of an optical finder

14 Closing Motion Section for Cassette Attachment and Detachment

15A, 15B, 15C, 15D Control unit

23 Image Display Section

30 30' Driving signal formation section

31 31' Timing signal formation section

32 Synchronizing Signal Generating Section

33 34 S/H/AGC section

35 36 Signal selection / composition section

37 Processing Section for Video-Signal Record

38 39 Record amplifier

40 41 Record/playback selecting switch

42A, 42B Rotating magnetic head

43 Record Playback Device Section

45 46 Playback amplifier

47 Switch

48 Video-Signal Regeneration Section

51 Status Signal Formation Section

54 Operation Block

55 System Control Section

TP Magnetic tape